

# Building a Monitoring and Compliance Regime Under the Montreal Protocol

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## I. INTRODUCTION

[A]lmost all nations observe almost all principles of international law and almost all of their obligations almost all of the time.<sup>1</sup>

There is more than a kernel of truth in this quip about the problem of state compliance with international obligations. Without strong monitoring and compliance mechanisms, states are tempted to embrace international solutions and then not follow through with their obligations.<sup>2</sup> Despite such shortcomings, multilateral agreements on issues as diverse as environment, peace, trade, and international debt have given rise to international regimes.<sup>3</sup> Nowhere is this clearer than in the environmental context where recent events, such as the Soviet nuclear disaster at Chernobyl and the burning of Kuwaiti oil fields, remind us that pollution recognizes no borders.

This article focuses on a quintessentially global environmental issue, the depletion of the ozone layer, and on the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol), an agreement adopted in 1987 and significantly strengthened in 1990 under the auspices of the United Nations Environment Programme (UNEP).<sup>4</sup> Sixty-three countries have ratified the

1. L. HENKIN, *HOW NATIONS BEHAVE: LAW AND FOREIGN POLICY* 47 (1979), *quoted in* R. KEOHANE, *AFTER HEGEMONY: COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY* 98 (1984).

2. This can occur if penalties for noncompliance are weak and internationalization of the obligation successfully deflects attention away from political inaction at home. There are few political costs in issuing broad policy statements pledging cooperative action or in allowing other states to act and then reaping the subsequent benefits. Economists refer to this as the "free rider" problem. *See* Axelrod, *An Evolutionary Approach to Norms*, 80 AM. POL. SCI. REV. 1095, 1103 (1986).

3. Regime theorists describe regimes as "implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations." *See* Haggard & Simmons, *Theories of International Regimes*, 41 INT'L ORG. 3, 493 (1987). Another regime theorist, Donnelly, argues that this definition is overbroad and is therefore meaningless. He suggests a more limited definition, which defines regimes as "norms and decision-making procedures accepted by international actors to regulate an issue area." *See* Donnelly, *International Human Rights: A Regime Analysis*, 40 INT'L ORG. 599, 602 (1987), *quoting* Haas, *Why Collaborate? Issue-Linkage and International Regimes*, 32 WORLD POL. 357, 358 (1980).

4. Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1541, 1544 [hereinafter *Montreal Protocol*]. For the 1990 London Amendments, *see Report of the Second Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer*, U.N. Environment Programme, U.N. Doc. EP/OzL.Pro.2/3 (1990) [hereinafter *London Amendments*]. *See also* *Parties to Montreal Protocol Agree to Phase Out CFCs, Help Developing Nations*, 13 Int'l Env't Current Rep. (BNA) No.7, at 275 (July 11, 1990). For a description of the evolution of the agreement, *see* Tolba, *The Ozone Agreement — and Beyond*, 14 ENVTL. CONSERVATION 287 (1987); *see also* Doniger, *Politics of the Ozone*

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agreement, representing over 99% of the production and 90% of the consumption of ozone-depleting chemicals.<sup>5</sup> As the first global agreement adopted to protect the earth's atmosphere, the Montreal Protocol is perhaps the greatest achievement of the UNEP regime.<sup>6</sup> The Protocol not only addresses a serious global environmental crisis, it sets the stage for collective action on global warming.<sup>7</sup> In February 1991, 130 countries began meeting to negotiate a treaty on global warming, a process to which the Montreal Protocol undoubtedly will contribute.<sup>8</sup>

Yet depletion of the ozone layer continues and the work of putting the Montreal Protocol into effect has just begun. Many of the real challenges lie ahead, including adoption of an effective noncompliance provision that will encourage countries to abide by their commitments. The parties to the Protocol are expected to meet in 1992 to discuss proposals for a noncompliance provision. This article suggests ways to build a successful monitoring and compliance regime drawing on effective features of other regimes. Part I describes the development of the Montreal Protocol and the forces that led to its adoption. Part II describes the Protocol and the recent amendments strengthening it. Part III considers useful theoretical work in regime theory, and evaluates enforcement mechanisms of various regimes for inclusion in the nascent noncompliance regime of the Protocol. Part IV concludes by arguing that the Protocol regime must incorporate a stronger monitoring and compliance mechanism than the one currently in place -- one that allows for a more formal role for public interest nongovernmental organizations (NGOs)<sup>9</sup> -- if the

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*Layer*, 4 ISSUES IN SCI. & TECH. 86 (1988).

5. As of August 2, 1990, 63 countries had ratified the Montreal Protocol. There are a number of important countries, such as India and China, that are expected to ratify now that a fund has been included to help developing countries make the transition to safer chemicals and products. See R. BENEDICK, *OZONE DIPLOMACY* app. C, at 265 (1991).

6. UNEP was established at the Stockholm Conference of 1972, the first major international conference on the state of the global environment. The formation of UNEP accelerated the development of the international environmental regime. UNEP codified customary law through statements of environmental principles, facilitated joint research and education programs, and brought countries together to negotiate treaties. For a thorough discussion of UNEP's history, see Gray, *The United Nations Environment Programme: An Assessment*, 20 ENVTL. L. 291 (1990).

7. It has never been seriously contended that there would not be significant health and environmental effects from ozone layer depletion. Recent data indicate that ozone depletion is occurring far more rapidly than previously believed and that ultraviolet rays are reaching the ground for more significant periods of the year. The data measured 4% to 8% reductions in the ozone layer, which is a dramatic increase from the 3% decrease measured in 1986. See *infra* note 46. Every increase of 1% translates into a 5% to 7% increase in cases of skin cancer, doubling the projected mortality from 5,000 to 10,000 people each year. Wash. Post, Apr. 5, 1991, at A1, col. 1. Additionally, infrared exposure is known to cause widespread damage to crops and to phytoplankton, the microorganisms upon which fisheries depend for food. Ozone-depleting chemicals also act as heat trapping gases, and may contribute up to 25% of the global warming gases. R. BENEDICK, *supra* note 5, at 21.

8. N.Y. Times, Feb. 8, 1991, at A17, col. 1. See also U.S. to Host First Session in February for Negotiating International Convention, 13 Int'l Envtl Current Rep. (BNA) No. 11, at 414 (Oct. 10, 1990).

9. Public interest nongovernmental organizations (NGOs) refer to nonprofit organizations that work on behalf of the environment and the public at large. Organizations especially involved in the ozone layer

regime is to be effective in accomplishing its imperative task of phasing out ozone-depleting chemicals.<sup>10</sup>

## II. THE DEVELOPMENT OF THE MONTREAL PROTOCOL

Almost two decades have passed since a seminal article appearing in *Nature* magazine first alerted the world to the possibility of ozone layer depletion by man-made chemicals.<sup>11</sup> At the time, chlorofluorocarbons (CFCs), the predominant ozone-depleting chemicals, were in widespread use.<sup>12</sup> Despite the urgency of the problem, international action was stymied by disagreements over the danger posed by these chemicals, the degree of action necessary to curtail their use, and the shape an international agreement should take.<sup>13</sup> When negotiations over a treaty to limit CFCs finally began, the dramatically different attitudes toward the politics, economics, and environmental benefits of an ozone layer agreement pitted the United States against those European countries that had significant economic interests in producing CFCs. In many ways, the entrance of the developing countries, eager to avoid becoming the recipients of the North's discarded chemicals and technologies, helped rescue the debate from regional parochialism and focused the parties on a constructive,

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debate are the Environmental Defense Fund, Friends of the Earth, Greenpeace, Natural Resources Defense Council (NRDC), and World Resources Institute. They work to protect the environment and interests of people who would otherwise have little voice in national and international political channels. Financial support is provided through membership fees, foundations, special gifts, and government grants.

10. At the national level, United States NGOs have been vital in shaping the agreement and in mobilizing countries to be aggressive negotiators by working with Congress, state legislatures, the regulatory process, lawsuits, and with industry. At the international level, these NGOs have acted as observers and experts in the forums organized by UNEP. They were also crucial in encouraging their counterparts in Europe and lesser developed countries to join the debate, albeit at a much later stage.

11. In the article, two scientists hypothesized that CFCs rise 10 to 50 kilometers above the earth and cause a catalytic reaction that destroys ozone in the stratosphere. Because of their stable chemical structure, CFCs can remain in the atmosphere for a period lasting from many decades to several centuries. The scientists concluded that when they are eventually broken down, CFCs release large volumes of chlorine. A chemical chain reaction begins in which chlorine atoms destroy ozone molecules, and ozone is transformed into two-atom oxygen. The chlorine atom survives and is free to react with more ozone molecules. Molina & Rowland, *Stratospheric Sink for Chlorofluoromethanes: Chlorine Atom Catalyzed Destruction of Ozone*, 249 NATURE 810 (1974).

12. The major ozone-depleting chemicals are chlorofluorocarbons (CFCs). They are used as solvents and in thousands of products including aerosol cans, refrigeration, air conditioning, transportation, plastics, insulation, pharmaceuticals, computers, and electronics. Another family of ozone-depleting chemicals are halons, which are used primarily in fire extinguishers. CFCs and halons have long been considered "miracle" chemicals because they cause minimal direct human health risks, are not flammable or explosive, and do not readily react with other chemical substances. However, it is precisely these properties that have made these chemicals so destructive to the ozone layer. A molecule of chlorine can last in the atmosphere for over one-hundred years and can destroy tens of thousands of molecules of ozone. Shea, *Protecting Life on Earth: Steps to Save the Ozone Layer*, WORLDWATCH PAPER 87, at 20 (1988).

13. For example, at a workshop in Rome in 1986, European industry representatives refused to admit that new controls were necessary in light of a recent upturn in the production of CFCs, choosing instead to contest the validity of the scientific evidence. R. BENEDICK, *supra* note 5, at 47-48.

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global solution.<sup>14</sup> As a result, the developed countries, which have been primarily responsible for the dramatic loss in ozone, will not only reduce their reliance on ozone-depleting chemicals but also will help developing countries, through a multilateral fund and the transfer of technology, choose a more environmentally sound path.<sup>15</sup> Accomplishing major global reductions in the release of these chemicals will take another ten years, a daunting prospect when one considers that it will take decades, or even centuries, to reverse the amount of ozone-depleting chlorine already in the atmosphere.

### A. Setting the Stage for a Multilateral Agreement

The Governing Council of UNEP led the development of an international treaty. It established the Coordinating Committee on the Ozone Layer in 1977, and urged support for a World Plan of Action to protect the ozone layer.<sup>16</sup> By 1981, the committee of scientific experts issued an executive summary of the state of the ozone layer and the scientific knowledge that formed the basis for its assessment.<sup>17</sup> After the assessment was issued, treaty drafting and negotiations began in earnest. The UNEP Governing Council formed the *Ad Hoc Working Group of Legal and Technical Experts* (Working Group) to develop a framework convention to which control protocols could be added, and to garner support for action from a broad group of states, international bodies, and organizations.<sup>18</sup>

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14. Virtually all sales of CFCs between 1931 and 1986 were to customers in developed countries. However, markets for products made with CFCs have increased rapidly. For example, bulk chemical use in developing countries totalled a significant 16% in 1986. Shea, *supra* note 12, at 20.

15. The data make it clear why global support for CFC reductions is necessary. In 1986, the United States accounted for 30% of the world output of CFC-11 and CFC-12, the European Community (EC) for 43% to 45%, Japan for 11% to 12%, the USSR for 9% to 10%, and Argentina, Australia, Brazil, Canada, China, India, Mexico, and Venezuela for the remaining 3% to 7%. Users of these chemicals are obviously a far larger group, with the EC as the nearly exclusive supplier of CFCs to markets in developing countries. The EC expanded its exports 43% between 1976 and 1985, which accounted for nearly one-third of its production. R. BENEDICK, *supra* note 5, at 26.

16. *Towards an Ozone Convention: A Look at Some Issues*, U.N. Environment Programme Secretariat, at 2, U.N. Doc. EP/WG.69/5 (1981).

17. Although the committee's conclusion urging action was important, the process the committee initiated — gathering data that all members could agree on — was ultimately its most important function. In the data itself were the seeds of future arguments that the treaty's controls should not be limited to aerosol use of CFCs, to the predominant CFCs, CFC-11 and CFC-12, or to the United States and EC countries. *Report of the Ad Hoc Working Group of Legal and Technical Experts for the Elaboration of a Global Framework Convention for the Protection of the Ozone Layer*, U.N. Environment Programme, at 1, U.N. Doc. EP/WG.78/8 (1983).

18. The Working Group included representatives of governments, university scientists, and representatives of intergovernmental organizations, such as the EC, the Organization for Economic Cooperation and Development (OECD), and the World Health Organization (WHO). *Report of the Ad Hoc Working Group of Legal and Technical Experts for the Elaboration of a Global Framework Convention for the Protection of the Ozone Layer on its First Session*, U.N. Environment Programme, at 2, U.N. Doc. EP/WG.69/10 (1982).

UNEP launched the Working Group process in the midst of great scientific uncertainty about the processes driving ozone depletion.<sup>19</sup> UNEP maintained the international effort despite lowered predictions of ozone depletion and a new administration in the United States, under President Reagan, that accorded a low priority to the issue.<sup>20</sup> For three years, the Working Group met in arduous sessions to revise the draft language of the convention and to debate the merits of appending a control protocol to the framework convention.<sup>21</sup> Few NGOs or developing countries participated in the sessions, and the debate became polarized between the European Community (EC) and those countries that had taken some action to control CFCs.<sup>22</sup> Two industries in particular, Britain's Imperial Chemical Industries (ICI) and France's Atochem, were considered powerful enough to determine the international posture of the EC.<sup>23</sup>

As the date for consideration of the convention approached, the United States and Canada joined the Scandinavian countries in backing an international aerosol ban.<sup>24</sup> Due to the continued intransigence of both the EC Council and most of its member countries, however, the framework convention ultimately failed to mandate reductions.<sup>25</sup>

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19. As scientists developed models to take into account the natural and chemical processes influencing ozone depletion, the predictions for rate of depletion over the next century varied enormously, from a high of 19% in 1979 to a low of 3% in 1983. R. BENEDICK, *supra* note 5, at 13.

20. *Id.* at 42. UNEP fostered general agreement on research into ozone depletion and its causes, information exchange on policies and technologies, transfer of less harmful technologies to developing countries, and monitoring of ozone-depleting chemicals and ozone depletion. *Draft Convention for the Protection of the Ozone Layer, With Commentary*, U.N. Environment Programme, U.N. Doc. EP/WG.78/2 (1982).

21. R. BENEDICK, *supra* note 5, at 42. See *Revised Draft Convention for the Protection of the Ozone Layer, With Additional Commentary*, U.N. Environment Programme, U.N. Doc. EP/WG.78/10 (1983); *Second Revised Draft Convention for the Protection of the Ozone Layer, With Additional Commentary*, U.N. Environment Programme, at 3, U.N. Doc. EP/WG.94/3 (1983). For a description of protocol options, see *Alternative Structures and Formats for Technical Annexes and/or Protocols to the Draft Convention for the Protection of the Ozone Layer*, U.N. Environment Programme Secretariat, U.N. Doc. EP/WG.78/3 (1982).

22. The EC insisted on speaking with one voice despite growing dissension among its 12 member states. It was dominated by CFC-producing industries and felt little pressure from environmentalists, legislators or the European public to limit CFCs. The EC rejected both an aerosol ban proposed by West Germany and its own Commission's recommendation for a 50% reduction in aerosols by 1983, supporting instead the internationalization of a capacity limit. The chief United States negotiator, Ambassador Richard R. Benedick, called the EC proposal "disingenuous," because it would have no effect until the end of the century. R. BENEDICK, *supra* note 5, at 25.

23. Both companies represented their respective governments at a number of negotiating sessions. *Id.* at 33.

24. See *Revised Draft Proposal Concerning Measures to Control, Limit and Reduce the Emissions of Chlorofluorocarbons (CFCs) for the Protection of the Ozone Layer*, U.N. Environment Programme, U.N. Doc. EP/WG.94/9 (1983); *Draft Protocol on Chlorofluorocarbons: Revised Text Submitted by Canada, Norway, Sweden and the United States of America*, U.N. Environment Programme, U.N. Doc. EP/WG.110/CRP.1 (1984).

25. *Final Report of the Ad Hoc Working Group of Legal and Technical Experts for the Elaboration of a Global Framework Convention for the Protection of the Ozone Layer*, U.N. Environment Programme, U.N. Doc. EP/IG.53/4 (1985).

As the UNEP Coordinating Committee on the Ozone Layer was being formed in 1977, the Environmental Protection Agency (EPA) -- acting together with the Food and Drug Administration and Consumer Product Safety Commission, and prompted by the threat of a lawsuit by the Natural Resources Defense Council (NRDC) -- banned CFC use in aerosols in the United States under the Toxic Substances Control Act.<sup>26</sup> Similar actions followed shortly thereafter in Canada, Norway, and Sweden.<sup>27</sup> Later in 1977, Congress approved amendments to the Clean Air Act that included a precautionary provision directing the EPA to regulate any substances affecting the ozone layer and endangering public health or welfare.<sup>28</sup>

Instead of meeting its arguably legal obligations to mandate further reductions at home, though, the EPA pursued the international forum provided by UNEP. This enabled the United States to espouse a multilateral strategy that environmentalists considered necessary, while placating domestic industry by delaying the imposition of further controls.<sup>29</sup> This policy suited United States companies that were wary of more unilateral regulations and that needed time to develop substitute substances as the world market shifted away from ozone-depleting chemicals.<sup>30</sup>

Meanwhile, national pressure increased and, as a result of a lawsuit brought by the NRDC in 1984, a Washington, D.C. District Court ordered the EPA to formulate domestic regulations under the Clean Air Act, or to explain why it had not already done so, by early 1987.<sup>31</sup> In an effort to avoid

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26. Final Rules, Toxic Substance Control Act, 43 Fed. Reg. 11,318 (1978). For a thorough discussion of the history of EPA's regulation of CFCs, see Nangle, *Stratospheric Ozone: United States Regulation of Chlorofluorocarbons*, 16 B.C. ENVTL. AFF. L. REV. 531.

27. R. BENEDICK, *supra* note 5, at 24. While the bans affected three billion dollars in sales, the CFC aerosols were quickly replaced by more economical substitutes. *Id.* at 24, 31.

28. Under section 157(b) of the Clean Air Act, "the Administrator shall propose regulations for the control of any substance, practice, process, or activity (or any combination thereof) which in his judgment may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, if such effect in the stratosphere may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7457(b) (1988).

29. Moreover, the United States multilateral strategy was stymied in 1981 by the inauguration of President Ronald Reagan, who was more responsive to industrial interests than to environmental concerns. See generally J. LASH, *A SEASON OF SPOILS: THE STORY OF THE REAGAN ADMINISTRATION'S ATTACK ON THE ENVIRONMENT* (1984). When William Ruckelshaus replaced Anne Burford as EPA Administrator in 1983, mid-level EPA staffers convinced the new Administrator to support internationalization of the United States aerosol ban, and to join the Toronto Group, several countries that supported CFC controls, including Canada, Finland, Norway, Sweden and Switzerland. R. BENEDICK, *supra* note 5, at 42.

30. United States CFC producers strongly opposed a 1980 EPA proposal to freeze non-aerosols and remained opposed to an international agreement until 1986, when they conceded that its adoption was inevitable and would boost their competitiveness in marketing substitutes with the EC companies, such as the French Atochem and British Imperial Chemicals Industries, which were subject to no limitations. R. BENEDICK, *supra* note 5, at 31-33. Du Pont, responsible for one quarter of the world's supply of CFCs, announced in workshops held by EPA and UNEP in 1986 that it could manufacture substitutes within five years, given policies that created the proper economic incentives. See Doniger, *supra* note 4, at 88.

31. NRDC v. Thomas, No. 84-3587, slip op. (D.D.C. May 17, 1986). See also NRDC *Sues to Require EPA to Issue Rules Limiting Emissions of Chlorofluorocarbons*, 15 Env't Rep. (BNA) 1384 (Dec. 14, 1984). For the regulations that stemmed from this order, see 40 C.F.R. § 82 (1987).

further legal action aimed at compelling it to issue unilateral regulations, the EPA launched its Stratospheric Ozone Protection Program, which initiated domestic scientific and policy assessments, while organizing and cosponsoring international workshops with UNEP.<sup>32</sup> Based on the EPA's assessments, the EPA and the State Department proposed that CFCs be phased out by the turn of the century. Ultimately, however, members of the Reagan administration weakened this position by unleashing their infamous "hats and sunglasses" response to the State Department.<sup>33</sup>

Unilateral action during the 1970s and 1980s produced two major multilateral benefits.<sup>34</sup> First, Canada, Scandinavia, and the United States (which on its own used and produced over one-third of all CFCs) demonstrated the technical and economic feasibility of banning CFC propellants in aerosols. Second, the possibility of further unilateral action, such as NGO litigation or congressional action, compelled countries that had already taken action to adopt a tougher stance in the UNEP Working Group negotiations.<sup>35</sup> While the use of CFCs in aerosol cans had been banned or reduced in some countries, their use in other products and other countries had continued or increased, potentially nullifying the benefits gained by such cutbacks.<sup>36</sup> Broad cooperation was clearly needed.<sup>37</sup>

### B. *The Vienna Ozone Convention Lays the Groundwork*

The Working Group held seven sessions and produced over fifty documents in preparation for the 1985 meeting in Vienna. Ultimately, the Working Group

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32. Stratospheric Ozone Protection Plan, 51 Fed. Reg. 1257 (1986).

33. During the summer before the adoption of the Montreal Protocol, an aide to Donald Hodel, then Secretary of the Department of Interior, suggested to the press that he supported an alternative policy of "personal protection," which amounted to wearing hats, sun glasses, and suntan lotion for protection because skin cancer was a self-inflicted disease attributable to lifestyle preferences. Not surprisingly, this rumor backfired, and Hodel was lampooned by the media across the country. R. BENEDICK, *supra* note 5, at 60. The Senate passed a resolution calling for a CFC phaseout by a vote of 80 to 2. S. Res. 226, 100th Cong., 2d Sess., CONG. REC. 77,510 (1987).

34. There has been a long-standing debate about the wisdom of pursuing a multilateral strategy at the expense of unilateral action. The notion of what constitutes a strong player at the negotiating table is central to this debate. Some argue that being a big polluter, in this case a large consumer of CFCs, strengthens a state's legitimacy in negotiating reductions. See Clausen, *Moving Forward Together*, ENVTL. FORUM, July-Aug. 1988, at 14. Others argue the contrary position, stating that a state's commitment to unilateral action creates the basis for its sovereign legitimacy. The latter group argues that unilateral action is an effective precursor to international action in two ways; it serves as an example to other nations and it can be used as leverage to gain multilateral cooperation. See Shimberg, *A Sound Framework, A Flawed Regulation*, ENVTL. FORUM, July-Aug. 1988, at 15.

35. Member states of the Toronto Group have already taken unilateral action to limit aerosol use of CFCs and thus have little to lose and a great deal to gain, both environmentally and economically, in urging countries to follow their lead. *Report of the Working Group: First Part of the Third Session*, U.N. Environment Programme, U.N. Doc. EP/WG.94/5 (1983).

36. Shea, *supra* note 12, at 20.

37. R. BENEDICK, *supra* note 5, at 4.



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could not agree on a control protocol, and the countries signed only a framework convention, the Vienna Convention for the Protection of the Ozone Layer (Vienna Ozone Convention).<sup>38</sup> However, those states attending did pledge to adopt a control protocol within two years.<sup>39</sup> Surprisingly, the course of events yielded a far more significant proposal in Montreal.

Following the adoption of the Vienna Ozone Convention, UNEP sponsored two workshops on control measures to present data relevant to a control protocol.<sup>40</sup> There were no official delegations, and participants ranged from United Nations officials, academics, environmentalists, industry representatives, to developed and developing country officials.<sup>41</sup> The second workshop, held in a rural setting outside of Washington, D.C., replete with barbecues and bluegrass music, was especially pivotal in moving the parties toward an agreement, perhaps because the informal setting allowed frank discussion and deemphasized the divisions between different positions.<sup>42</sup> Interestingly, this may have been the first time that United States NGOs, who had for years been building media and public concern, lobbying Congress, and pressuring the EPA to regulate CFCs, participated in any significant numbers in an international forum.

The United States and Canada, with support from the Executive Director of UNEP, Mustafa Tolba, took the lead at the subsequent Working Group meetings by advocating a stringent control measure. Nonetheless, it was far from certain what would emerge from the Montreal meeting. Negotiations lasted for days and nights as the agreement took shape. Debate centered around the extent of the cutbacks, the chemicals to be included, and the treatment of developing countries with low levels of CFC use.<sup>43</sup> On September 16, 1987, the representatives of twenty-four nations signed the Montreal Protocol, at which time Tolba declared that "the environment can be a bridge between the worlds of the East and West, and North and South . . . with this agreement the worlds of science and public affairs have taken a step closer together [to] a union which must guide the affairs of the world into the next century." More

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38. Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, 26 I.L.M. 1529 [hereinafter Vienna Ozone Convention].

39. In accord with the resolution, UNEP organized a series of workshops with the aim of preparing a control protocol for consideration by the parties to the Vienna Ozone Convention in 1987. *Report of the Steering Committee Meeting*, U.N. Environment Programme, U.N. Docs. EP/WG.137/2 (1985), EP/WG.1-37/4 (1985).

40. The primary function of both workshops was to bring experts together to discuss topics related to a control protocol, such as current and projected CFC production, use, trade, and regulation. *Report of the First Part of the Workshop on the Control of Chlorofluorocarbons*, U.N. Environment Programme, U.N. Doc. EP/WG.148/2 (1986); *Report of the Second Part of the Workshop on the Control of Chlorofluorocarbons*, U.N. Environment Programme, U.N. Docs. EP/WG.148/3, EP/WG.151/Background 2 (1986).

41. R. BENEDICK, *supra* note 5, at 47.

42. *Id.* at 48-49.

43. R. BENEDICK, *supra* note 5, at 77.

somberly, he added that "this Protocol is a point of departure . . . the beginning of the real work to come."<sup>44</sup>

### C. 1987-1990: the Protocol Is Adopted and Amended

It is ironic that variations in the predictions of ozone depletion -- used to delay action and progress toward any type of international agreement by opponents who argued there was insufficient knowledge on which to act -- were later found to uniformly underestimate the loss of ozone.<sup>45</sup> As a result of the flaws in these predictions, the Montreal Protocol was negotiated under an assumption that serious ozone depletion was still decades away. Shortly after adoption of the Protocol, a major study of ozone trends disclosed the existence of an antarctic ozone hole the width of the continental United States and the depth of Mount Everest.<sup>46</sup> More importantly, scientists linked the hole to the accelerated action of man-made chlorine through a complicated chemical process occurring in cold temperatures on ice crystals. Recent measurements over the Arctic indicate that real, albeit smaller, reductions of ozone are occurring over the Arctic as well.<sup>47</sup>

After the panel revealed its astonishing findings, Du Pont, the world's largest producer of CFCs and a longtime opponent of CFC reductions, announced it would accelerate research into substitutes and phase out all production of CFCs and halons by the turn of the century.<sup>48</sup> The announcement sounded the death knell for these chemicals, and provided an opportunity for United States NGOs to encourage NGOs in Europe and in developing countries to push for amendments that would completely ban CFCs, halons, and two other chemicals discovered to have high depletion effects (methyl chloroform

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44. *Id.* at 76.

45. The models' flaws made it difficult to predict ozone loss right up to the signing of the Montreal Protocol. The major breakthrough came in 1982 when scientists began to measure actual levels of ozone. Their findings of significantly decreased ozone levels in the Antarctic were so astonishing that British researchers at the Halley Bay station checked and rechecked their equipment and results for over three years before releasing their results. When they did, United States and Japanese researchers quickly confirmed the evidence of an ozone hole larger than the continental United States. R. BENEDICK, *supra* note 5, at 18-19.

46. The National Aeronautics and Space Administration (NASA) concluded that ozone depletion was occurring at significantly greater rates than those predicted by computer models. NAT'L AERONAUTICS & SPACE ADMIN., REPORT OF THE INTERNATIONAL OZONE TRENDS PANEL 4 (1988). Where the models predicted decreases of less than 2% between 1969 and 1986, actual measurements showed an average decrease of up to 3% over the heavily populated areas of North America and Europe, with decreases of as much as 6.2% during the winter months. *Id.* at 4-5. Recent data from NASA measured losses of 4% to 8% over large portions of North America. In Washington, D.C., losses are as high as 6% and are occurring in the spring, when people spend a lot more time outdoors. See *supra* note 7. The new data -- described by the EPA Administrator, William Reilly, as "stunning information [that] possesses implications we have not yet had time to fully explore" -- will undoubtedly spark an interest in tightening the amended schedules under the Montreal Protocol. N.Y. Times, Apr. 5, 1991, at A1, col. 1.

47. N.Y. Times, Sept. 6, 1990, at A25, col. 1.

48. R. BENEDICK, *supra* note 5, at 111-12.

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and carbon tetrachloride).<sup>49</sup> Friends of the Earth and Greenpeace affiliates succeeded in enlisting the support of Great Britain, which was once the leading European opponent of controls.<sup>50</sup> The "green" movement in West Germany made it politically expedient for the leaders of that country, another major CFC producer, to announce a ninety-five percent unilateral reduction and to use its position as head of the EC to tighten the requirements for the European bloc.<sup>51</sup> These efforts contributed to a remarkable feat of international coordination and unity when over ninety NGOs from around the world -- representing twenty-seven nations from Africa, North and South America, and Eastern and Western Europe -- met in London and issued a statement calling for immediate international action.<sup>52</sup>

As a result of the scientific findings and the pressure by NGOs, many major users and producers of CFCs, such as the United States, the European Community, and Japan, announced their intention to act faster and more comprehensively than the original agreement required.<sup>53</sup> Not long thereafter,

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49. Four major environmental groups -- Greenpeace, National Toxics Campaign, Clean Water Action Project, and U.S. PIRG -- launched a grassroots campaign to win support for safe alternatives to ozone-depleting chemicals and products. See *Grassroots Campaign Aims at Winning Support for Measures to Protect Earth's Ozone Layer*, 12 Int'l Env't Current Rep. (BNA) No.5, at 244 (May 10, 1989). Greenpeace and the NRDC called for the addition of ozone-depleting chemicals, methyl chloroform and carbon tetrachloride. See *Greenpeace Says Two Cleaning Solvents Should Be Covered by Montreal Protocol*, Int'l Env't Current Rep. (BNA) No. 11, at 535 (Nov. 8, 1989). And the Environmental Defense Fund also issued a report on the ecological hazards of ozone depletion. See *Scientists Report Antarctic Ozone Hole Letting in More Radiation Than Expected*, 12 Int'l Env't Current Rep. (BNA) No. 4, at 175 (Apr. 12, 1989).

50. R. BENEDICK, *supra* note 5, at 114. The British government was well-known for its position opposing strong international controls and its attempts to delay any agreement. Its positions were almost synonymous with those of its largest producer, Imperial Chemical Industries, which was a large foreign exchange earner for the country. Unites States Ambassador Richard Benedick describes a time when the British government called on the State Department to curtail a negative campaign by United States environmentalists in Great Britain. *Id.* at 39. He also describes having encouraged the same organizations to galvanize their European counterparts to offset the influence of the European CFC industry. *Id.* at 28.

51. West Germany was instrumental in the EC Council decision to disallow the EC "bubble" for reductions, thereby requiring each country to meet all of its reductions on its own. *Id.* See also *Greens Call for Ban on Production, Use of Ozone-Depleting Chlorofluorocarbons*, 12 Int'l Env't Current Rep. (BNA) No. 8, at 396 (Aug. 9, 1989).

52. *International Environmental Community Calls for Strengthened Montreal Protocol*, 12 Int'l Env't Current Rep. (BNA) No. 5, at 228 (May 10, 1989). The NGO statement described the state of current scientific understanding of the contribution of CFCs to the depletion of the ozone layer and global warming, and warned that unless the Montreal Protocol was made significantly stronger, efforts to halt ozone depletion would be meaningless. At the meeting, before the parties convened to adopt the amendments, NGOs presented a detailed paper calling for: 1) rapid and complete phaseout of the CFCs and halons now subject to the Protocol and restrictions on other ozone-depleting chemicals by 1995; 2) adoption of a dual strategy of international cooperation and national action to assure the fastest possible emissions reductions by the greatest number of nations; and 3) interim steps including an absolute ban on all aerosol and other frivolous uses of CFCs by 1991, stronger trade restrictions against nonsignatory states and violators, and adoption of an internationally standardized label to inform consumers of the CFC content of products. Draft of Statement by the International Environmental Community Concerning the Urgent Need to Strengthen the Montreal Protocol on Substances that Deplete the Ozone Layer (Feb. 8, 1989) (on file with author).

53. See *Report Projects Antarctic Ozone Depletion to Continue for Decades, Sees Marine Damage*, 12 Int'l Env't Current Rep. (BNA) No. 4, at 168 (Apr. 12, 1989); *Nation Willing to Freeze CFC Production if Given the Technology for Substitutes*, 13 Int'l Env't Current Rep. (BNA) No. 2, at 65 (July 11,

in June 1990, the parties met in London to respond to evidence of more rapid ozone-layer depletion and to meet the demands of developing countries. The meetings in London produced amendments that, if ratified, would significantly strengthen the Montreal Protocol.<sup>54</sup>

To encourage broad membership, the parties required at least eleven states, comprising two-thirds of the global consumption of CFCs and halons, to ratify the Montreal Protocol before it could enter into force.<sup>55</sup> This goal has been exceeded. Presently, over sixty countries have ratified the Protocol, representing ninety percent of the consumption of those substances controlled under the original agreement.<sup>56</sup> In addition, countries that have not yet ratified the Protocol demonstrated their strong interest in the Protocol during the last meeting of the parties, in which nonparties showed up in greater numbers than parties.

There has been substantial concern that developing countries with a large potential for future growth might not join the agreement. However, by the time the parties met to consider amending the agreement in June 1990, over half the countries that had ratified the agreement were developing countries. Many of the nonparties at the 1990 meeting were developing countries that lobbied strenuously for adoption of the Multilateral Fund. India and China, the two most important developing states, declared their intention to ratify the Montreal Protocol if the Fund were adopted.<sup>57</sup>

Ratification of the London Amendments is the next challenge. To date only Canada and New Zealand have ratified the Amendments.<sup>58</sup> While phasing out those chemicals covered in the original agreement are merely considered "adjustments," the cutback of additional chemicals and the establishment of the Multilateral Fund require ratification by each party.<sup>59</sup> While countries may comply for symbolic purposes, countries must ratify by the target date of January 1, 1992 for the 1990 Amendments to take effect on time.<sup>60</sup>

The adoption of the Montreal Protocol represents a landmark step in the international environmental regime. The Protocol with its London Amendments will set up an elaborate international framework and a myriad of national

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1990).

54. See London Amendments, *supra* note 4.

55. Montreal Protocol, *supra* note 4, art. 16.

56. See *supra* note 5 and accompanying text.

57. Both China and India, with over 40% of the world's population, were carefully considered by the parties. China was chosen by the Working Group, prior to adoption of the London Amendments, for a study of the incremental costs of shifting to substitutes. The study estimated that China would need \$42 million over the next three years, and, perhaps more importantly, suggested that there were identifiable steps China could take to reduce its prospective reliance on targeted chemicals. The Working Group calculated that if India were to join, an additional \$40 million would be needed to help meet its costs. R. BENEDICK, *supra* note 5, at 187.

58. Telephone interview with Treaty Section of United Nations (Mar. 22, 1991).

59. R. BENEDICK, *supra* note 5, at 146.

60. London Amendments, *supra* note 4, annex II, art. 2.

programs. The agreement will make possible a ban on the chemicals most harmful to the ozone layer and encourage a market shift to substitutes, a shift that could only be accomplished through international agreement.

A combination of factors made the agreement possible. One of the more salient factors was the leadership demonstrated by the United States, a government strengthened by an environmentally concerned Congress, by NRDC litigation, and by the chemical industry's desire for a "level playing field" to assure a global market for its substitutes.<sup>61</sup> United States NGOs helped significantly to keep the United States position strong and to bolster that position abroad by devoting considerable resources to an ozone protection campaign.<sup>62</sup> Recognizing that the support of both the producer and user industries was crucial to a strong agreement, they built coalitions in the private as well as public sector.<sup>63</sup> At the international level, the United States NGOs interacted regularly with the UNEP negotiators and environmental NGOs in a large number of countries.<sup>64</sup> European NGOs applied similar national strategies. Together, United States, European, and developing countries' NGOs formed an impressive coalition prior to the adoption of the London Amendments to put pressure on all states in the international forum to press for controls on ozone-depleting chemicals. This dual strategy of influencing national policy in countries with responsive political systems, and of participating in international meetings to influence other governments, proved successful.<sup>65</sup>

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61. According to Ambassador Benedick, when the State Department was called upon to justify its strong negotiating position in a meeting with President Reagan, it cited the potential for further unilateral action, the low threshold for regulatory action under the Clean Air Act pending congressional legislation, and the NRDC litigation that had ordered the EPA to take action. R. BENEDICK, *supra* note 5, at 66.

62. The NRDC has recently launched an Atmospheric Protection Initiative. One of its senior attorneys, David Doniger, has worked closely with the United States government, NGOs, and scientists and policy-makers. The NRDC has also pursued ozone protection in court. Friends of the Earth (FOE) has made ozone protection one of its major issues and is working closely with its international office in London. It publishes *Atmosphere*, a quarterly newsletter on current developments in this area. These organizations exemplify, but by no means exhaust, the work by many organizations concerned about depletion of the ozone layer.

63. CFC producers and users were encouraged to join a "CFC-Free" club by well-known groups that would, in turn, commend companies announcing plans for voluntary phaseouts of controlled chemicals. See Statement of Support for the Foodservice Packaging Institute's Fully Halogenated Chlorofluorocarbon Voluntary Phaseout Program, by Natural Resources Defense Council, Environmental Defense Fund & Friends of the Earth (Apr. 12, 1988) (on file with author). For examples of industry announcements supporting phaseout of CFCs, see statements by Allied Chemicals, Du Pont, Foodservice Packaging Institute, Inc., and the United States Council for International Business (on file with author).

64. See *supra* notes 49-52 and accompanying text.

65. R. BENEDICK, *supra* note 5, at 5-7, 25. The author states that the private sector organizations - both environmental and industrial - warned the public of the risk of ozone depletion, pressured governments to act, pressed for research and legislation, and served as observers in the international meetings, making views known to government and media. *Id.* at 5. For example, an EPA official described as pivotal the statement made by NRDC's Doniger that damage to the ozone layer will be the next asbestos and Dalkon Shield disaster for industry. Telephone interview with Stephen Seidel, Stratospheric Protection Program, Office of Air and Radiation, EPA (Apr. 12, 1991).

### III. THE MONTREAL PROTOCOL, ITS AMENDMENTS, AND NATIONAL LEGISLATION

The drafters of the Montreal Protocol negotiated with an unwavering commitment to include as many countries as possible in the agreement. In making ozone protection a major global initiative, they hoped to encourage a large-scale switch from ozone-depleting chemicals to substitutes by setting reduction goals and foreclosing as many markets as possible for ozone-depleting chemicals. To maximize the number of parties joining at the outset, the drafters chose a "top down" approach, one that mandates goals and deadlines but allows states the flexibility to choose their own means of phasing out restricted chemicals. A "top down" approach encourages participation by states that might otherwise find the requirements too Draconian or a threat to their sovereignty.<sup>66</sup> This approach allows states to develop their own policies and regulations for meeting their obligations to reduce ozone consumption.<sup>67</sup> Trade benefits and exceptions negotiated by concerned parties also encourage states to join.<sup>68</sup>

The strides made at the national level in the United States, which were brought about by environmental organizations and concerned citizens, are equally impressive. In 1989, over 100 bills in twenty-four states were introduced calling for CFC restrictions.<sup>69</sup> Also in 1989, the EPA agreed to issue regulations under the authority of the Clean Air Act in a settlement with the NRDC.<sup>70</sup> A year later, Congress passed a reauthorized Clean Air Act -- proposed and supported by a coalition of environmental, health, and labor organizations -- containing stringent provisions for the control of CFCs and other ozone-depleting chemicals.<sup>71</sup> Congress made it clear in the amendments to the Clean Air Act that it intended the EPA to go further than the Montreal Protocol to protect the ozone layer. The amendments not only put the United

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66. Montreal Protocol, *supra* note 4, art. 2; London Amendments, *supra* note 4, annex I, at 1-3 (amending arts. 2A-2B).

67. Montreal Protocol, *supra* note 4, art. 3; London Amendments, *supra* note 4, annex II, at 6 (amending art. 3).

68. Montreal Protocol, *supra* note 4, arts. 4 & 5.

69. Of 104 bills introduced, 51 pertained to foam-packaging or insulation, 30 pertained to air conditioning and refrigeration use, and the remainder dealt with miscellaneous-use categories and labelling programs. Document produced by the Alliance for Responsible CFC Policy (Nov. 16, 1989) (on file with author).

70. In a settlement between the NRDC and the United States Government on May 31, 1989, the EPA was ordered to promulgate regulations for ozone-depleting substances exceeding the requirements of the Montreal Protocol to fulfill its obligations under section 157(b) of the Clean Air Act. *NRDC v. William K. Reilly*, No. 88-1727 (D.C. Cir. 1989). Article 2(1) of the Protocol states that parties may take actions more stringent than those required. Montreal Protocol, *supra* note 4.

71. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, §§ 601-18, 104 Stat. 2649 (1990).

## The Montreal Protocol

States reduction obligations on a faster track,<sup>72</sup> but also addressed issues the Montreal Protocol ignored, such as recycling ozone-depleting chemicals and certifying safe substitutes.<sup>73</sup>

### A. The Requirements of the Protocol and the London Amendments

Most of the production and consumption of ozone-depleting chemicals is concentrated in developed countries.<sup>74</sup> For this reason, the immediate focus of the Montreal Protocol is on reductions in the United States, Europe, USSR, and Japan. After much debate, the parties agreed that each country's reduction obligation would be determined by a formula based on its 1986 consumption of restricted chemicals.<sup>75</sup> Even though production is easier to measure, the parties chose a formula that focuses on consumption to minimize any incentives that importing states might have to build their own capacity as supplies dwindled. The EC argued strenuously against a focus on consumption, fearing that as consumption declined in the United States, American producers would look to markets in developing countries that had long been in the purview of European companies.<sup>76</sup> The parties ultimately compromised, focusing the formula on consumption but requiring additional reporting on production,

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72. Under the London Amendments, the production of CFCs, halons, and carbon tetrachloride will be terminated by 1999. Two years later, production of methyl chloroform will be terminated, with only minor exceptions for medical purposes and other essential uses. *Id.* § 604. In the interim, production will be reduced in annual increments, faster than what is required under the Montreal Protocol. A general provision requires the EPA to accelerate the phaseout schedules if the administrator determines that new scientific evidence indicates that additional steps are necessary to protect human health or the environment. It also allows the EPA to accelerate the schedules to coincide with the Protocol if it becomes more stringent than the Clean Air Act. *Id.* § 606.

73. The London Amendments impose requirements on recycling, the prohibition and labelling of products, and the production of HCFCs. First, in 1992, the EPA must adopt regulations to maximize the capture and recycling of CFCs, carbon tetrachloride and methyl chloroform. *Id.* § 608(a)(1). The EPA will also regulate the air-condition servicing industry. *Id.* § 608(a)(2). This requires that service people be trained and certified in recycling. *Id.* § 609(b)(4)(2). Second, over the next four years, the sale of "nonessential" products containing CFCs and the other ozone-depleting chemicals will be prohibited. *Id.* § 610. Products manufactured with these chemicals will be required to carry labels informing consumers. *Id.* § 611. Lastly, while the Montreal Protocol lists HCFCs as "transitional substances" but does not mandate controls, the Clean Air Act provisions will curtail their production in 2015 when any "new use" of the chemicals will be banned. *Id.* § 605(a). After 2030, all production must be terminated. *Id.* § 605(b)(2). These isomers of CFCs, touted as substitutes, deplete the ozone layer at about one-twentieth the rate of CFCs. Additionally, the EPA must set standards for safe substitutes. *Id.* § 612(c).

74. The industrialized countries use 88% of the CFCs and more than 20 times the amount per capita than developing countries. R. BENEDICK, *supra* note 5, at 148-49. See also *supra* note 15 and accompanying text.

75. The Montreal Protocol's formula for consumption is defined as production plus imports minus exports of restricted chemicals. Montreal Protocol, *supra* note 4, art. 1, para. 6. Amounts exported are excluded from the consumption calculation of the exporting state because they are presumed to be included in the consumption calculation of the importing state. To eliminate "losses" to nonparty states, exports to these states cannot be subtracted after 1993. Montreal Protocol, *supra* note 4, art. 3, para. c. No changes to paragraph (c) were included in the 1990 London Amendments.

76. R. BENEDICK, *supra* note 5, at 79-80.

exports, and imports.<sup>77</sup> Moreover, parties cannot export to nonparty states after 1993 and cannot produce more than ten percent over their domestic consumption quota for export to developing countries.<sup>78</sup>

The agreement's second purpose was to discourage the huge potential increase in the production and consumption of ozone-depleting chemicals in developing countries.<sup>79</sup> While relatively few lesser developed countries participated in the negotiation of the Montreal Protocol itself, they made a strong case for delaying the imposition of the control requirements by arguing that they needed time and help in making the transition from technology utilizing CFCs to new substitute technologies.<sup>80</sup> There was also strong sentiment among many of the developing countries that the issue was "a rich man's problem [requiring a] rich man's solution," and that on account because of the greediness of developed countries, they were being asked to curtail their modernization.<sup>81</sup>

Under the original agreement, developing countries with a low per capita use of CFCs and other chemicals were granted a ten-year delay in meeting the reduction goals.<sup>82</sup> They also were promised financial and technological help, but in terms too vague to be meaningful.<sup>83</sup> Not surprisingly, dissatisfaction with the agreement grew among developing countries when it became apparent that CFCs, other ozone-depleting chemicals, and dependant technologies were slated for obsolescence in developed countries. Concern that substitutes might not be available fast enough to meet their rising domestic needs spurred a dramatic shift in the negotiating strategy of developing countries between the Montreal and London meetings.<sup>84</sup>

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77. Montreal Protocol, *supra* note 4, art. 7, para. 2.

78. *Id.* (requirements found in art. 3, para. c & art. 2, para. 1).

79. R. BENEDICK, *supra* note 5, at 151.

80. N.Y. Times, Mar. 26, 1989, at D18, col. 3.

81. India's representative made this comment in a private conversation after the negotiations in Montreal were completed. India had bought CFC-producing technology from United States companies Allied Chemical and Pennwalt prior to the negotiations and, as a result, would have significant amounts available for export. R. BENEDICK, *supra* note 5, at 100-01.

82. Montreal Protocol, *supra* note 4, art. 5. This provision allows parties with a per capita use of controlled substances of less than 0.3 kilograms at the time the agreement enters into force to delay its compliance for 10 years in order to "meet its basic domestic needs". *Id.* at art. 5, para. 1. The provision limiting use to "basic domestic needs" has been controversial. There was concern that developing countries could produce up to the 0.3 kilogram cap for export and that this would greatly diminish the effectiveness of the agreement. See Tripp, *The UNEP Montreal Protocol: Industrialized and Developing Countries Sharing the Responsibility for Protecting the Stratospheric Ozone Layer*, 20 J. INT'L L. & POL. 743 (1988). However, it was decided that producing CFCs for export would not be in the spirit of the agreement and thus could not fall under "basic domestic needs."

83. These provisions directed the parties to facilitate developing country access to environmentally safe substances and technology, and to make funds available. Montreal Protocol, *supra* note 4, art. 5, para. 2 & 3.

84. China, for example, uses only one-fortieth of the amount per capita that industrialized countries use, but its use is rising 20% every year. R. BENEDICK, *supra* note 5, at 149-50.



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In what was perhaps the most significant agreement made in the London Amendments, the parties provided for a Multilateral Fund to help developing countries meet the reduction requirements on the same schedule as developed countries.<sup>85</sup> After long negotiations, the parties agreed to a resolution setting up a three-year interim fund to provide \$160 to \$240 million to developing countries to meet their incremental costs of compliance until the Amendments had entered into force.<sup>86</sup> Putting developing countries on track with developed countries will eliminate incentives to continue trade in ozone-depleting chemicals, and will have an enormous impact on the rate that ozone-depleting chemicals disappear from the global market.<sup>87</sup> While the original Montreal Protocol would have reduced CFCs by fifty percent and frozen halons at 1986 levels, the London Amendments would phase out both of these chemicals along with two additional chemicals -- carbon tetrachloride and methyl chloroform -- by the year 2000.<sup>88</sup> Interim reductions, beginning as early as 1993, will also encourage countries to reduce their reliance on banned chemicals.<sup>89</sup>

Another important feature of the Montreal Protocol is the use of trade benefits to encourage states to join the agreement. While the Multilateral Fund serves as an enforcement tool for developing countries by conditioning funding on compliance, the trade provisions, which allow trade of restricted chemicals

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85. London Amendments, *supra* note 4, annex II, at 12-13 (amending article 10).

86. The figure was arrived at after an EPA assessment of the incremental costs per year for developing country compliance. The Multilateral Fund itself is part of the London Amendments and is to be administered by an executive committee of 14 parties, to make grants, act as a clearinghouse for technical cooperation and training, and facilitate and monitor other multilateral and bilateral avenues for aid. *Id.* at annexes II, IV, V.

87. London Amendments, *supra* note 4, annex II. Efforts to put in place a fund have been ongoing since adoption of the Montreal Protocol. The 80 nations that attended the first meeting of the parties in 1989 in Helsinki adopted a declaration agreeing to phase out all production of the ozone-depleting chlorofluorocarbons, and urged the adoption of a fund to help developing countries adhere to a worldwide ban. *N.Y. Times*, May 6, 1989, at A6, col. 1. The United States, led by White House Chief of Staff John Sununu, opposed a fund until the parties met to adopt amendments in 1990. *Wall St. J.*, June 18, 1990, at A7, col. 4. The United States later reversed its position, but insisted on a clause stating that adoption of the Multilateral Fund should not be considered a precedent for future international agreements. London Amendments, *supra* note 4, at 11-14 (amending article 10).

88. Annex A lists CFCs and halons. Group I is composed of CFCs-11, 12, 113, 114, and 115, which are used primarily in refrigeration, industrial processes, and foam insulation. Group II includes halons-1211, 1301, and 2402, which are used primarily in fighting fires. Montreal Protocol, *supra* note 4, annex A. The London Amendments would add to the Montreal Protocol an annex B that includes additional CFCs in group 1, carbon tetrachloride in group 2, and methyl chloroform in group 3, and an annex C composed of isomers of chlorofluorocarbons (HCFCs), which deplete the ozone layer to a lesser degree than the annex A and B chemicals. No controls on annex C are mandated by the London Amendments. London Amendments, *supra* note 4, annex II, at 16.

89. Under the London Amendments, the CFCs and halons listed in annex A to the Montreal Protocol would be reduced by 50% by 1995 and 85% by 1997. The additional CFCs in group 1 of annex B would be reduced by 20% by 1993, 85% by 1997, and phased out by 2000. Carbon tetrachloride as restricted in group 2 of annex B would be reduced by 85% by 1995, and phased out by 2000. Methyl chloroform, restricted in group 3 of annex B, would be frozen by 1993, reduced by 30% by 1995, reduced by 70% by 1997, and phased out by 2005. Because the Protocol was signed in 1987, a baseline of 1986 was selected for annex A chemicals. This baseline is not altered by the Amendments. However, the Amendments would set a baseline of 1989 for annex B chemicals. London Amendments, *supra* note 4, annex II.

among parties, but limit trade of chemicals with nonparty states,<sup>90</sup> are essentially the only enforcement mechanism for developed states.<sup>91</sup> Trade in CFCs is substantial. The United States alone, with approximately thirty percent of the market in CFCs, produced \$750 million dollars worth of CFCs in 1985, and provided \$28 billion dollars worth of goods and services to the global CFC market.<sup>92</sup> In the EC, which has approximately forty-five percent of the market, exports currently account for over one third of this production and go primarily to developing countries.<sup>93</sup> Because the Protocol permits parties to continue to produce, consume, and trade in ozone-depleting chemicals until the turn of the century (albeit at reduced levels), states may actually prefer to join the Protocol rather than be cut off from the export or import opportunities associated with party states.<sup>94</sup> The trade restrictions currently apply only to raw chemicals, but will be extended to products containing targeted chemicals and possibly to products made with targeted chemicals, if the parties do not object.<sup>95</sup>

Although the trade provisions are not as ambitious as they might seem, they nevertheless serve as "carrots" to states that become parties and "sticks" to states that do not.<sup>96</sup> There is evidence that the trade restrictions are having the desired effect of encouraging states to join the Montreal Protocol or, at a minimum, to comply with its reduction requirements.<sup>97</sup> Although a sticky

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90. Montreal Protocol, *supra* note 4, art. 2, para. 5.

91. India is the only developing country with an exportable surplus of CFCs. See *Change to CFC-Substitute Production Would Cost India \$2 Billion, UNEP Says*, 13 Int'l Env't Current Rep. (BNA) No. 4, at 171 (June 13, 1990).

92. Shea, *supra* note 12, at 19.

93. R. BENEDICK, *supra* note 5, at 26.

94. *Id.* at art. 4. Parties are prohibited from importing annex A chemicals from nonparty states after 1990 and annex B chemicals after 1991. Parties are discouraged, but not prohibited, from exporting to nonparty states. Parties cannot subtract from their consumption calculation exports to nonparty states after 1993 for annex A chemicals, and after 1994 for annex B chemicals. Additionally, parties are to discourage the export to nonparties of any technology that facilitates the production or utilization of restricted chemicals. Under the Clean Air Act amendments, the president is directed to prohibit the export of such technology or investment in facilities abroad making any chemical listed in the annexes. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 614(c), 104 Stat. 2399, 2668 (1990).

95. Montreal Protocol, *supra* note 4, art. 4. By 1992, parties are to draw up a list of products containing controlled chemicals. Parties not objecting to the list are prohibited from importing these products from nonparties within a year of the ban becoming effective. By 1994, parties are to determine the feasibility of banning products made with, but not containing, controlled chemicals. If feasible, parties will draw up a list and, within a year and a half, those not objecting to this list are prohibited from importing these products from nonparties. The London Amendments would add the chemicals listed in annex B, but on a slightly more relaxed schedule. London Amendments, *supra* note 4, annex II.

96. The Protocol encourages nonparty states to comply with the control measures by lifting the ban against imports from such states if they can show compliance with the control requirements applicable to member states. Montreal Protocol, *supra* note 4, art. 4, para. 8.

97. Shortly after the Montreal Protocol was adopted, the EC producers of CFCs agreed not to transfer technology for the production of CFCs to nonparties. See *EC Producers of CFCs Agree Not to Transfer Know-How to Non-Parties to Montreal Accord*, 11 Int'l Env't Rep. (BNA) No.12, at 650 (Dec. 14, 1988). In the recently enacted Clean Air Act Amendments, the president is prohibited from transferring technology used to produce restricted chemicals to nonparty states. See *supra* note 94. More recently, Taiwan, which is not a member of the United Nations and therefore cannot become a party to the Montreal Protocol, is

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problem could potentially arise if a state has ratified the Protocol but not the London Amendments, states not ratifying the Amendments will be considered nonparties for the purpose of trade in the additional chemicals covered by the Amendments under the current interpretation.<sup>98</sup>

The agreement's noncompliance clause is not usually found in treaties outside of the arms control arena.<sup>99</sup> In the negotiations preceding the adoption of the London Amendments in 1990, the parties were only able to agree on an interim noncompliance procedure.<sup>100</sup> If ratified, the procedure would set up an Implementation Committee to review alleged noncompliance by parties and report back to all parties. However, the language is vague about how the Implementation Committee would conduct its investigation and what steps might be appropriate to reprimand noncomplying parties so as to ensure that parties meet their obligations.<sup>101</sup> Data reporting is obviously crucial in determining compliance, and discussions concerning the confidential treatment of data during the meetings prior to adoption of the London Amendments were contentious. The parties finally agreed to restrict access to nonaggregated production data to UNEP at the request of reporting parties, but to make all consumption data nonconfidential.<sup>102</sup>

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voluntarily complying with the agreement so as not to lose its trade benefits with party states. *See Republic Battles "Environmental Mess" with Far-Reaching Programs, New Laws*, 13 Int'l Env't Rep. (BNA) No. 1, at 5 (June 13, 1990).

98. R. BENEDICK, *supra* note 5, at 179.

99. *Id.* at 98-99. The Montreal Protocol instructs the first meeting of the parties to elaborate on the noncompliance provision of article 8 of the Protocol. Montreal Protocol, *supra* note 4, art. 8. At the first meeting, the parties set up a working group, the open-ended *Ad Hoc* Working Group of Legal Experts, to discuss the shape of noncompliance procedures. There was stark disagreement at the second meeting about the appropriate strength of the procedures, and the result of that meeting was that noncompliance procedures were adopted on an interim basis. Interview with Sue Biniaz, Attorney with the Legal Advisor's Office, State Department (May 3, 1991).

100. London Amendments, *supra* note 4, annex III. Interestingly, there is a dispute resolution provision in the Vienna Ozone Convention requiring parties to negotiate, and, if they cannot reach agreement through negotiation, to seek mediation by a third party. Vienna Ozone Convention, *supra* note 38, art. 11. States may accept compulsory arbitration or submission of the dispute to the International Court of Justice (ICJ) once they make a declaration to that effect with the Depository of the Convention. If the parties have not accepted either method of resolution, then the dispute is submitted to a conciliation commission which will hear both parties. This provision applies to any subsequent protocol unless otherwise provided in that protocol, and thus raises an interesting question of whether it is superseded by the interim noncompliance provision. As of March 26, 1991, Finland, the Netherlands, Norway, and Sweden submitted declarations accepting both arbitration and the jurisdiction of the ICJ as compulsory forms of dispute settlement. The EC accepted only arbitration. No other parties submitted declarations. Correspondence with the Treaty Section of the United Nations (Mar. 26, 1991).

101. London Amendments, *supra* note 4, annex III. The procedure would allow parties to submit concerns to the UNEP Secretariat about another party's implementation of its obligations. The party whose compliance is at issue is permitted a reasonable opportunity to respond. The Secretariat then forwards the submission, any response, and other information available from the parties and Secretariat to the Implementation Committee. This Committee then reports to the meeting of the parties on possible resolution, and the parties can decide what steps to take to further the Montreal Protocol's objectives.

102. R. BENEDICK, *supra* note 5, at 127. The EC took the lead in trying to weaken the data reporting requirements, arguing that the EC countries should be allowed to aggregate their figures on production and consumption on trade secret protection grounds. This argument was rejected by parties who argued

The office of the UNEP Secretariat is at the center of the Montreal Protocol's implementation procedures. As a separate office within UNEP, it serves primarily as an unbiased representative of the parties to interpret the Protocol and aid in its implementation.<sup>103</sup> The Secretariat monitors party progress in meeting reduction requirements, determines the application of trade restrictions, calls the meetings of the parties, and works with the Implementation Committee and the Executive Committee of the Multilateral Fund. Because the Protocol is self-policing, and uses data collecting and monitoring as the primary means of determining compliance, the Secretariat is critical in enforcing the agreement.

### *B. The Merits of the Protocol Approach and the Role of NGOs*

The Montreal Protocol's "top down" approach is attractive for a number of reasons. Merely by becoming parties to the Protocol, states share a common definition of the problem and a plan to address it.<sup>104</sup> To meet their obligations under the Protocol, they must agree to specific goals, time schedules, and promulgation of national programs. The larger the number of parties to the agreement, the faster markets for ozone-depleting chemicals will decline and manufacturers will move to substitutes. Additionally, the Multilateral Fund and the trade provisions create strong incentives for states to join and, because of trade sanctions, to encourage their trading partners to join as well. The UNEP Secretariat centralizes monitoring, data collection, and administration of the agreement for the parties.

The Montreal Protocol has three major weaknesses, however, all of which must be corrected by adopting more aggressive monitoring and compliance provisions. First, the structure of the agreement made it imperative that a large number of states become members. The drafters made concessions to states that could significantly alter the success of the agreement by slowing the pace of CFC reduction to accomplish that goal. Second, the agreement is necessarily quite flexible, since it leaves to individual countries the responsibility for adopting their own programs for eliminating targeted chemicals. This flexibility, however, will make the monitoring and verifying of compliance more difficult. Finally, the agreement's compliance scheme is inherently weak. The

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that reporting was in the public interest. The eventual compromise allowed aggregation for trade but not for consumption, thus masking actual production figures on a state by state basis. *Id.* at 182. *See also* London Amendments, *supra* note 4, at 15 (reporting decision II/9).

103. Montreal Protocol, *supra* note 4, art. 12.

104. The preamble of the Montreal Protocol states that "world-wide emissions of certain substances can significantly deplete and otherwise modify the ozone layer in a manner that is likely to result in adverse effects on human health and the environment . . . [the parties to this Protocol are] determined to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it, with the ultimate objective of their elimination." Montreal Protocol, *supra* note 4, preamble.

reason for this is that the main mechanism for encouraging compliance is the monitoring of country-supplied data by the Implementation Committee and the UNEP Secretariat. Both of these organizations are too small to be effective in this role.

### 1. *Many States Must Comply to Realize the Protocol's Goals*

In focusing on consumption, the Montreal Protocol requires participation by a larger group of states than would be necessary under a production formula.<sup>105</sup> The drafters of the agreement made a number of exceptions to the Protocol's requirements to entice parties to sign. The most significant provides a grace period to developing countries (the Article V exception). Another important exception permits the "trading" of obligations between parties (the EC exception), while a third exception is equivalent to a grandfather clause for states with plans for CFC-producing facilities that predate the signing of the Protocol (the USSR exception).

The exception for developing countries allows any country consuming less than 0.3 kilograms of CFCs per capita to delay complying with the control requirements for up to ten years to meet "basic domestic needs."<sup>106</sup> To illustrate the ramifications of this exception, an increase from the current worldwide average use of 0.2 kilograms of CFCs per capita to the 0.3 kilograms per capita allowed in developing countries would increase the worldwide production and use of CFCs by fifty percent by 1999.<sup>107</sup> Even a long-term use of only ten percent of the 1986 levels of CFCs would only delay eliminating the ozone hole until the end of the twenty-second century.<sup>108</sup> This exception, however, will probably not lead to increased levels of CFC use due to the developing countries' desire to share in the Multilateral Fund, a benefit available only to those reducing their CFC use on schedule. Nonetheless, the success of the Fund is critical, for the agreement explicitly protects parties from noncompliance penalties if they are operating under Article V and are

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105. The obvious reason for this is that production is concentrated in the hands of a very few parties, while consumption is dispersed among many consumers. See EPA, *Regulatory Impact Analysis: Protection of Stratospheric Ozone*, app. D (Aug. 1, 1988) (containing data breaking down production and consumption among countries).

106. Montreal Protocol, *supra* note 4, art. 5.

107. For example, China today uses only 0.02 kilograms per capita (kg/capita) or 18 million kilograms (kg) compared with the United States, which uses 0.84 kg/capita or 197.4 million kg. China has five times the population of the United States and enormous potential for increased use of CFCs. Tripp, *supra* note 85, at 744 & n.30. The potential demand for refrigerators is often cited as the "bogey man" of any control program. While the number of refrigerators in China increased by 80% in 1988, household refrigeration accounts for only 1% of CFC use, and developing countries account for only a small fraction of that figure. Interestingly, the technology assessment panel calculated that if domestic refrigeration increased 30% per year in developing countries, the use of CFCs would account for only 2% of the total global 1986 consumption of CFCs. R. BENEDICK, *supra* note 5, at 150.

108. R. BENEDICK, *supra* note 5, at 151.

unable to meet their requirements because of "inadequate implementation" of the Multilateral Fund. The London Amendments also provide for a 1995 review of the strides made in financial cooperation and the transfer of technology to developing countries, and create an opportunity to revise control requirements based on this review.<sup>109</sup>

The exception requested by the EC allows parties to trade obligations with other parties for the purposes of "industrial rationalization" within regional economic integration organizations, as long as the total production by the organization's members does not exceed the sum of the members' production limits.<sup>110</sup> While the EC Council of Ministers has announced that Europe will not use the production "bubble," this policy could change.<sup>111</sup> Because only three of the twelve EC countries reported separate production figures,<sup>112</sup> it is difficult to determine whether the EC is complying with its stated policy.

The exception for the USSR allows parties in calculating their baseline production levels to add production from facilities under construction or contracted for prior to September 1987, as long as the facilities were included in national legislation before January 1987, thus prior to the adoption of the Montreal Protocol.<sup>113</sup> This provision was granted during negotiations over the selection of 1986 as the baseline year from which to calculate reductions, and should only effect the Soviet requirements.

Perhaps the most serious exception in the agreement is the treatment of hydrochlorofluorocarbons (HCFCs) as transitional substances not subject to a reduction schedule. HCFCs are attractive alternatives to CFCs because they can be substituted quickly and relatively inexpensively for CFCs. While they have only 2% to 14% of the ozone-depletion potential of CFCs, extensive use of HCFCs could delay the recovery of the ozone layer into the twenty-second century.<sup>114</sup> The treatment of HCFCs became one of the most problematic issues during the negotiations over the London Amendments. Encouraging a rapid move away from CFCs by promoting investment in substitutes that are also serious ozone depleters is a poor solution. The compromise, surely to be revisited at the next meeting of the parties, requires reporting on the production, import, and export of HCFCs. It includes a nonbinding resolution declaring that HCFCs should be used only where more environmentally sound alternatives are not available and should be phased out by 2020 to 2040. The compromise also requires the Amendments to be reviewed regularly for additional measures.<sup>115</sup>

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109. Montreal Protocol, *supra* note 4, art. 5, para. 8.

110. *Id.* at art. 2, para. 5.

111. R. BENEDICK, *supra* note 5, at 113.

112. *See infra* note 121.

113. Montreal Protocol, *supra* note 4, art. 2, para. 6.

114. R. BENEDICK, *supra* note 5, at 136.

115. R. BENEDICK, *supra* note 5, at 174-76.

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Because of these exceptions, some environmentalists and policymakers have estimated that the Montreal Protocol might result in only a 35% to 40% reduction in CFC consumption by the turn of the century.<sup>116</sup> Others have argued that a dramatic shift in the global marketplace from CFCs to substitutes will reduce CFC consumption beyond the original fifty percent goal of the Protocol.<sup>117</sup> Obviously, the ratification of the London Amendments will bring about a far larger reduction and will promote the development of substitutes. But that will mean hard work and commitment to carrying out the technology transfer and financial cooperation provisions of the Protocol and its Amendments.

### 2. *The Structure of the Protocol Makes Monitoring Difficult*

The Montreal Protocol requires that individual states design their own reduction programs. Instead of mandating a blanket ban on the use of CFCs in aerosols — a step that would be easy to monitor — the Protocol allows every state to reduce CFCs and the other restricted chemicals in whatever way it chooses provided it can show that it is meeting its reduction requirements. This structure provides great flexibility, but it takes more time to accomplish, fragments decision-making, and frustrates monitoring efforts.

Once programs are adopted, the agreement relies on the parties' good faith efforts to comply. With the exception of countries receiving money from the Multilateral Fund, there are no explicit penalties for noncompliance. The parties have the power to act on an *ad hoc* basis in response to reports from the Implementation Committee, but it is unclear whether this provision will be utilized. The fact that there will be many different state plans also increases the likelihood that changing the direction of these programs will be more difficult.<sup>118</sup> To make the agreement responsive to new information about depletion of the ozone layer, the Montreal Protocol provides for an amendment process timed to coincide with its regular scientific, technical, and economic assessments.<sup>119</sup> For example, the agreement permits parties, through the

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116. See Doniger, *supra* note 4, at 86.

117. For a discussion of the effectiveness of the Montreal Protocol, see Gundling, *Hope for the Ozone Layer?*, 1 EUR. ENVTL. REV., Dec. 1987, at 46. See also Letter from G. Victor Buxton, Environment Canada Official and Chief Canadian Negotiator, to Cynthia Whitehead, Editor of the *European Environmental Review* (Mar. 23, 1988) (on file with author).

118. Concern was expressed early on about "changing boats in mid-stream" after state representatives had returned home to have their countries ratify the agreement. The chief negotiator for the United States argued against tightening the Montreal Protocol prior to its entry into force, saying that it was more important to encourage countries to ratify what had been agreed to in Montreal than to amend it and risk losing support. Benedick, *A Double Threat to the Ozone Treaty*, Int'l Herald Tribune, June 19, 1988, at 18, col. 1.

119. The Montreal Protocol requires that any decision to modify the Protocol be made by consensus or, if consensus is impossible, be approved by a two-thirds majority vote of the parties present and voting as long as they make up 50% of the consumption of controlled substances by the parties. The London

UNEP Secretariat, to call on the Protocol signatories to require sharper reductions in CFCs.<sup>120</sup> These provisions were crucial in bringing the parties together to approve the London Amendments.<sup>121</sup>

### 3. *The Shortcomings of the UNEP Monitoring Mechanism*

The placement of monitoring duties in the UNEP Secretariat may give a false sense of security. The monitoring carried out by the Secretariat consists primarily of the review of data submitted by the parties. However, with a small, impermanent, and underfunded staff, the Secretariat cannot compel parties to turn over data and will not be able to verify the data that it receives. If the Secretariat relies on data submitted by the parties, and this data is incomplete or inaccurate, then measuring the success of the Montreal Protocol and assessing the need for additional measures will be extremely difficult.

One of the greatest challenges will be collecting data and monitoring the activities of such a large number of parties. The trade provisions and Multilateral Fund obviously encourage membership, but weak data collection and compliance monitoring may make it difficult to determine if parties are in fact fulfilling their obligations. Already, there is evidence that following party compliance through the reporting requirements may be difficult. Of fifty-five states required to submit data to the UNEP Secretariat in May of 1990, only twenty-one countries, including the United States, the USSR, and Japan, submitted complete data.<sup>122</sup> Only three of the EC countries submitted complete data and four, including Britain, have yet to submit any data.<sup>123</sup> In May 1990, in response to the poor reporting record of the parties, UNEP's Mustafa

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Amendments would change the stipulation to a majority of parties operating under article 5 and a majority operating under article 2. Montreal Protocol, *supra* note 4, art. 2, para. 9(c).

120. The Montreal Protocol requires that by 1990, and at least every four years thereafter, the parties assess the adequacy of the control requirements of article 2. Montreal Protocol, *supra* note 4, art. 6. When the London Amendments enter into force, articles 2A to 2E and the production, imports and exports of the transitional substances in group 1 of annex C must be reassessed. London Amendments, *supra* note 4, annex II at 10 (amending article 6). Based on these assessments, parties may decide whether further reductions should be undertaken and the scope and timing of these reductions. Montreal Protocol, *supra* note 4, art. 2, paras. 9(a), 9(b), 10(a). Proposals are to be communicated to the UNEP Secretariat at least six months before the meeting of the parties at which time their adoption will be considered. However, this requirement was interpreted to require only a general proposal, thus enabling the parties to continue to work right up to the meeting of the parties. R. BENEDICK, *supra* note 5, at 140-41.

121. Numerous provisions of article 11 of the Montreal Protocol encourage the parties to review the control measures and to consider and undertake additional action required to achieve the stated objectives. Montreal Protocol, *supra* note 4, art. 11.

122. R. BENEDICK, *supra* note 5, at 181.

123. The EC countries provided an aggregate figure. Only three EC countries -- Denmark, Luxembourg and Spain -- submitted complete data, and only three -- France, the Netherlands, and Spain -- submitted separate production data. Four EC countries -- Britain, Greece, Italy, and Portugal -- have not submitted any data at all. *Id.*



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Tolba sent a letter to all the states suggesting that parties failing to submit data should be considered in noncompliance.<sup>124</sup>

The EC and developing countries resisted the efforts of the United States and the Scandinavian countries to adopt a tougher measure and extend trade sanctions to noncomplying parties.<sup>125</sup> As a compromise measure, the parties created the Implementation Committee.<sup>126</sup> The Committee serves as an important forum for reviewing the data and monitoring information collected by the UNEP Secretariat.<sup>127</sup> The Secretariat, in preparing its regular reports for the parties, may submit information and observations made during its review of data to the Committee for its consideration.<sup>128</sup> Additionally, parties may submit complaints to the Secretariat, which must allow the parties whose compliance is in question an opportunity to respond. The Secretariat then transmits the complaint, response, along with any additional information, to the Committee.<sup>129</sup>

Unfortunately, the provision for the Implementation Committee contains several weaknesses. The Committee has no powers of investigation or enforcement. Its members are not objective experts, but state representatives who may politicize the Committee's mission. For example, they may be more hesitant to put forth tough recommendations for fear that their own countries' programs will be made the subject of the next review. If the Committee does issue a critical report, it is unclear what, if anything, the parties will do in response. Finally, information submitted to the Committee is to be kept confidential, weakening the incentives for the Committee to aggressively pursue violations.<sup>130</sup>

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124. In 1988, there were two Junior Professional Officers (JPOs) on loan to the UNEP Secretariat who were responsible for the majority of the Secretariat's functions. The JPO position is usually limited to one year. Interview with Dr. Iwona Rummel-Bulska, Acting Director of the Environmental Law and Machinery Unit of UNEP, in Nairobi, Kenya (Aug. 1988). The NRDC has routinely urged the United States Senate to increase UNEP's budget by stressing that UNEP's staff is overworked by implementation of the Montreal Protocol. *Foreign Operations, Export Financing, and Related Agencies Appropriations for Fiscal Year 1990: Hearings on H.R. 2939/H.R. 3743 Before the Subcomm. on Foreign Operations of the Senate Comm. on Appropriations*, 101st Cong., 1st Sess. 21-23 (1989) (statement of Thomas B. Stoel, Jr., Director, Natural Resources Defense Council International Program).

125. R. BENEDICK, *supra* note 5, at 183.

126. London Amendments, *supra* note 4, annex III, para 3.

127. At the meeting in June 1990, the parties agreed to a series of decisions including one that instructs the *Ad Hoc* Working Group of Legal Experts to elaborate further procedures on noncompliance and enhanced duties for the Implementation Committee by the Fourth Meeting of the Parties. London Amendments, *supra* note 4, at 12 (reporting decision II/5).

128. Under the agreement and amendments, parties must supply specific information on production, imports, exports, and recapture and destruction of controlled substances. *Id.* at annex II at 10 (amending article 7).

129. *Id.* at annex III, para. 3.

130. *Id.* at annex III, para. 11.

## IV. STRENGTHENING MONITORING AND COMPLIANCE REGIMES: THEORY AND EXAMPLES

While the "top down" approach selected by the drafters is appropriate given the desirability of having many countries ratify the Montreal Protocol, it leaves too much responsibility in the hands of individual states, has exceptions built in that could slow the essential progress of the agreement for many years, does not have adequate mechanisms for punishing states for noncompliance, and relies too heavily on a UNEP Secretariat ill-equipped to carry out implementation by itself. Although there are probably many fruitful approaches to take in addressing these problems, the burgeoning field of regime theory provides a particularly useful approach by placing these problems in a more theoretical context.<sup>131</sup>

A. *Regime Theory*

Regime theorists attempt to explain the behavior of actors in a particular regime.<sup>132</sup> These theorists look at factors such as reciprocity, reputation, repetitive dealings, and -- ultimately -- power to explain why and how states deal with one another.<sup>133</sup> Regime theory suggests that the process of monitoring and information gathering creates "regime" expectations by providing the feedback necessary for members to appraise performance.<sup>134</sup> Such feedback can help hold members to their obligations and make injunctions meaningful. One regime theorist, Robert Keohane, argues that injunctions, which prescribe certain actions and proscribe others, are the essence of a regime.<sup>135</sup> Effective regimes, according to Keohane, require only a few strong players that recog-

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131. For a general introduction to regime theory and international relations theory, see Abbott, *Modern International Relations Theory: A Prospectus for International Lawyers*, 14 YALE J. INT'L L. 335 (1989).

132. Haggard and Simmons categorize regime theorists as structural, game-theoretic, functional or cognitive. These categories are not exclusive, but they describe what regime theorists emphasize in explaining regime behavior. Haggard and Simmons argue that all but the cognitive theorists presume unified rational actors. The structuralists attempt to show that international conditions define degrees of cooperation. The game theorists argue that states cooperate on the basis of preference rankings, while the functionalists introduce uncertainty and transaction costs as variables in cooperation. Haggard and Simmons describe their approach as "cognitive," stating that only the cognitive theorists argue that there is no fixed national interest or optimal regime. Instead they look at the influence of domestic processes on international cooperation. Haggard and Simmons, *supra* note 3, at 498.

133. For an excellent description of how these forces work together to create a nonhierarchical system of international enforcement of regime expectations, see Haggard & Simmons, *supra* note 3, at 159.

134. According to Donnelly, the strongest regimes enforce international norms through strong monitoring mechanisms. The weakest regimes simply promote international norms through international information exchange, assistance, and perhaps even weak monitoring of international guidelines. Donnelly, *supra* note 3, at 604.

135. R. KEOHANE, *supra* note 1, at 59.

nize they will benefit from collective action.<sup>136</sup> These players will set the rules of the game, or the injunctions, to ensure that if they play, others will play as well.<sup>137</sup>

Other regime theorists, in particular those who study game theory, believe that reputation and reciprocity between parties are the essential building blocks of regime expectations.<sup>138</sup> Parties confer benefits of membership only on those states that abide by what one theorist, Robert Axelrod, describes as meta-norms.<sup>139</sup> States that do not abide by these norms can be denied the benefits of membership. Regime theorists describe this as the "shadow of the future" in which states, aware that their present actions may alter the future receptivity of other states to their membership, choose to comply with regime norms.<sup>140</sup>

Most regime theorists assume that negotiations begin when the states come together and then occur only among states.<sup>141</sup> International negotiations are in fact multidimensional and are heavily influenced by domestic politics, as the Montreal Protocol negotiations demonstrated. The players that influenced the international position of the United States, for example, included NGOs, private industry, Congress, state and municipal legislatures, and -- in no small way -- the agencies of the federal government itself. The United States carefully considered its position in regard to the domestic regulatory climate. In addition, the same NGO, the NRDC, that brought litigation in the United States under domestic law, organized international NGOs to express their opinions in one position paper for all the delegations to the Protocol convention.

One regime theorist who does look at states as multidimensional entities is Roger Putnam. He criticizes the excessive focus of other theorists on supranational institutions in the evolution of international agreements.<sup>142</sup> Putnam suggests that domestic politics and third parties strongly influence

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136. Regime theorists argue that the emergence of regimes is explained by the need for states to create forums in which to promote their own self-interested actions, rather than by a desire to improve the world or by an ideology of collectivism. *Id.* at 32-39.

137. *Id.* at 63.

138. The game theorists describe reciprocity in either a one-game model or an iterated-game model. They describe positive effects on compliance from repeated dealings, or what they call "the shadow of the future." Reputation is basically recognition and can replace reciprocity in making compliance in a regime attractive to states. See Axelrod & Keohane, *Achieving Cooperation Under Anarchy: Strategies and Institutions*, 38 *WORLD POL.* 226, 250 (1985).

139. Axelrod, *supra* note 2, at 1101.

140. Oye, *Explaining Cooperation Under Anarchy*, 38 *WORLD POL.* 1, 3 (1985). See also Axelrod & Keohane, *supra* note 138, at 232; R. KEOHANE, *supra* note 1, at 116.

141. Both Keohane's and Axelrod's suppositions about what drives regimes can be found in varying degrees within any international negotiation, but they consider international negotiations to be primarily within the realm of international, rather than domestic, politics.

142. Putnam, *Diplomacy and Domestic Politics: The Logic of Two-Level Games*, 42 *INT'L ORG.* 3, 427 (1988). See also Haggard and Simmons, *supra* note 3, at 513. They argue that current theories of international regimes have ignored the influence domestic politics has on international cooperation and, conversely, the influence regimes have on domestic policy choices.

regimes, and that interest groups, public opinion, and national and local politics play a central role in influencing foreign policy.<sup>143</sup>

In Putnam's model, political leaders engage in negotiating that allows regime participants to minimize adverse foreign developments while satisfying domestic demand.<sup>144</sup> He describes the negotiating process as having two stages. First, negotiators bargain in and among themselves and then they bargain with constituents about the shape and ultimate ratification of the negotiated agreement. Putnam's two-stage model is important because it recognizes the influence that domestic political forces, such as "third party watchdogs," have on international cooperation. Negotiators must also consider whether they have satisfied all the elements necessary to secure ratification.<sup>145</sup> In his model, domestic politics broadly defined -- not simply the role of Congress in the United States, for example, but lobbying by pressure groups and the influence of public opinion -- play a role in determining the content of the agreement negotiated abroad. Ultimately, Putnam argues, politicians will try to shape international agreements in ways that favor approval by domestic constituents while maintaining diplomatic credibility.

Putnam's model recognizes two elements that are powerful in shaping contemporary events but too often get short shrift in the regime theory literature: the power of domestic politics and public opinion. A fairly sophisticated version of the Putnam model is operating today in the context of the Montreal Protocol. The chief United States negotiator asserts that the major difference between the positions taken by the United States and the EC can be explained by the difference in public perception of the threat to the ozone layer.<sup>146</sup> Even before the ban on the use of CFCs in aerosols in 1978, the use of spray cans in the United States dropped by two-thirds due to an active media and environmental community that immediately spread the word about the dangers of CFCs. As a result, the United States government took action quickly under domestic law and assumed a leadership role in the international negotiations. On the other hand, European states, which for a long time had neither a press nor constituents demanding environmental attention, were consistently opposed to taking action. In fact, the major European CFC-producing industries, ICI and Atochem, dominated the national politics that shaped the European posi-

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143. Putnam, *supra* note 142, at 432. For example, interest groups can work to influence political leaders abroad, sometimes even without a leader understanding the intricacies of an interest group's campaign for a particular negotiating position. *Id.* at 428, 430, n.5.

144. Putnam describes the negotiations as "two-level games" in which level I negotiations take place between states and level II negotiations take place between different interests operating within the negotiator's state. *Id.* at 434.

145. In Putnam's terms, a large "win-set" for a given agreement at Level I is imperative to winning an up or down ratification at Level II. *Id.* at 432.

146. R. BENEDICK, *supra* note 5, at 27.

## The Montreal Protocol

tion.<sup>147</sup> Thus, the two parties had vastly different domestic political situations that accounted for their positions.

According to regime theorists, once parties have adopted an agreement, monitoring by members of the regime and sanctions against nonmembers or violators then become crucial to deterring potential free-riders.<sup>148</sup> As noted earlier, however, the Montreal Protocol's current mechanisms for monitoring and compelling compliance are extremely weak. Putnam's insight into the role of domestic politics and private organizations in influencing state behavior suggests a possible solution to the problem of creating a strong monitoring and compliance regime for the Protocol. Because advocacy by NGOs and private industry played a critical role in the adoption of the Protocol, incorporating NGOs into the international compliance regime would be an effective way of compelling states to abide by their obligations. Such a role would allow NGOs to bring systematic domestic political pressure to bear on noncomplying states. The ozone-protection regime is well set to accommodate such structural additions. The parties have agreed to the concept of implementation and compliance procedures, have grown accustomed to working closely with NGOs and industry, and have already centralized the existing monitoring and compliance mechanisms.

Expanding the monitoring and compliance mechanisms of the Montreal Protocol on the international level is critically important, and recent work in regime theory suggests that reliance on NGOs for monitoring and enforcement may be an effective solution. Such a regime need not be developed completely from scratch for there already exist three regimes that address problems similar in crucial respects to those addressed by the Protocol. These are the human rights regime, the International Labor Organization (ILO), and the International Atomic Energy Agency (IAEA). In particular, these regimes are valuable objects of study because they provide examples of monitoring and compliance mechanisms that rely significantly on NGOs and private individuals. In spite of the fact that NGOs are acknowledged as crucial to bringing about desired policy goals under both international and domestic laws, neither international agreements nor international implementing bodies, such as UNEP, explicitly acknowledge and accommodate NGOs in their compliance mechanisms.<sup>149</sup>

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147. *Id.* at 33.

148. Oye, *supra* note 140, at 17.

149. The 1957 EC Treaty of Rome is one exception. Citizen complaints can be lodged with the implementing body, the EC Commission, which is empowered to take action against any member state for failing to comply with the EC environmental standards. Over half of the actions taken by the EC Commission have been initiated by citizen complaints, numbering some 460 in 1989. P. SAND, *supra* note 129, at 31-32. Actions are taken in three steps. First, the Commission sends "letters of formal notice" to the offending state. After giving the state an opportunity to respond, the Commission can issue a "reasoned opinion" regarding the noncompliance. If the state fails to respond, the matter can be referred to the European Court of Justice. In 1988, 93 letters of formal notice, 71 reasoned opinions, and 11 cases were referred to the Court. *Id.*

While the international environmental regime has yet to incorporate NGOs formally into the implementation mechanisms of international agreements, the regime is beginning to struggle with that question.<sup>150</sup>

The comparison of individual and NGO participatory rights in the human rights and ILO regimes with United States procedural rights is inescapable. Perhaps that is why these regimes are attractive models. As more and more regulation occurs abroad in the form of international agreements, the more citizens from countries such as the United States stand to lose in opportunities to shape regulations through notice and comment, receive a response from the agency formulating the regulations, and -- most importantly -- to challenge regulations and noncompliance through judicial review. This scenario is more than hypothetical. The Montreal Protocol internationalized the process of developing United States regulations on ozone-depleting chemicals. Unlike the 1978 EPA regulations banning CFCs in aerosols, there was little opportunity for the United States public to shape the 1988 regulations through notice and comment.<sup>151</sup> Implementation and enforcement now pose a similar challenge as there is nothing comparable to citizen enforcement power at the international level.

The first and primary regime to be considered is the human rights regime. This regime provides perhaps the most salient example of how actively NGOs can be involved in the enforcement mechanisms of international regimes. The regime also has impressive procedures for addressing violations of regime norms through extensive use of commissions and courts for the review of complaints. While the human rights regime is in many ways quite different from the Montreal Protocol, the comparison is useful because it provides a constructive view of how international mechanisms can be put to work to correct undesirable state behavior.

### B. *The Human Rights Regime*

In 1948, the United Nations adopted the Universal Declaration on Human Rights (Universal Declaration).<sup>152</sup> NGO efforts to enforce the Universal

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150. At a recent meeting of the Montreal Protocol's Multilateral Fund, the Executive Committee's 13 members debated the merits of allowing NGOs to participate in selecting countries and projects for funding. As one anonymous NGO source put it, "it's better to have the NGOs pissing out of, rather than into, the tent."

151. For an excellent discussion of this emerging problem, see Remarks of David A. Wirth, Assistant Professor of Law, Washington & Lee University, before the National Association of Environmental Law Societies Conference (Feb. 1, 1991) (on file with author).

152. Universal Declaration of Human Rights, G.A. Res. 217A (III), 3 U.N. GAOR Resolutions (Part 1), U.N. Doc. A/810 (1948). In spite of the Declaration's strong normative force, it has been broadly criticized for its underutilized monitoring and enforcement mechanisms. See Donnelly, *supra* note 3. For an especially critical appraisal, see Farer, *The United Nations and Human Rights: More than a Whimper Less than a Roar*, 9 HUM. RTS. Q. 550 (1987).

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Declaration, and the thirty human rights declarations, conventions, and resolutions that followed, are as important as the document itself.<sup>153</sup> Amnesty International is well-known for its work to bring human rights practices to the attention of the global community, but there are literally thousands of groups and individuals who have used the monitoring and enforcement mechanisms of the regime's commissions and courts to define acceptable human rights practices.<sup>154</sup> They also conduct fact-finding missions, publish reports,<sup>155</sup> issue annual reports on the state of human rights around the world,<sup>156</sup> and work closely with international organizations to strengthen these institutions.<sup>157</sup>

### 1. Monitoring Under the United Nations Regime

The Universal Declaration grew out of the United Nations Charter's mandate and set a standard of achievement for all nations. As Judge Buerghenthal of the Inter-American Court observes, countries that voted for the Declaration believing there was little risk of legal obligation were to be

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153. For an excellent description of the work of NGOs in the human rights regime, see Weissbrodt, *The Role of International Nongovernmental Organizations in the Implementation of Human Rights*, 12 TEX. INT'L L.J. 293 (1977). For example, NGOs have consultative status with such intergovernmental bodies as the U.N. Economic and Social Council, the International Labor Organization, the Council of Europe, and the Organization of American States. Even though they represent individuals, not governments, they operate as quasi-governments with international secretariats representing the interests of the citizens of a particular state. For an evaluation of the most prominent NGOs, see L. LIVEZEY, *NON-GOVERNMENTAL ORGANIZATIONS AND THE IDEAS OF HUMAN RIGHTS* (1988).

154. Weissbrodt, *supra* note 153, at 296 n.23. Over 15 years ago, there were over 600 NGOs with accredited relationships with the U.N. Economic and Social Council alone. In addition, there were over 400 registered with the Office of Public Information at the United Nations as a result of their status with other U.N. bodies or specialized agencies. NGOs have more freedom to criticize governments and to use the political process and media to bring attention to their work. Weissbrodt categorizes their work in terms of contributions to international investigative procedures, diplomatic interventions and missions, public discussion of human rights violations, humanitarian aid, and work at the local level. *Id.* at 302-19.

155. For a description of the fact-finding undertaken by NGOs, see generally H. THOOLEN & B. VERSTAPPEN, *HUMAN RIGHTS MISSIONS: A STUDY OF THE FACT-FINDING PRACTICE OF NON-GOVERNMENTAL ORGANIZATIONS* (1986). Appendix III lists reports of 187 fact-finding missions conducted by Amnesty International, International Association of Democratic Lawyers, Americas Watch, International Federation of Human Rights, International Commission of Jurists, International League for Human Rights, Lawyers Committee for International Human Rights, and human rights projects associated with churches and social justice organizations. *Id.* at app., at 157.

156. Amnesty International, for example, reported on human rights developments in over 140 countries. AMNESTY INTERNATIONAL, *AMNESTY INTERNATIONAL REPORT* (1990). See also AMERICAS WATCH, *ANNUAL REPORT* (1990).

157. For example, Amnesty International reports that: it urged the General Assembly of the United Nations to adopt the Second Optional Protocol to the International Covenant on Civil and Political Rights on the death penalty; it worked with a subcommission of the U.N. Human Rights Commission on language regarding "disappearances;" it testified before a U.N. subcommission in favor of a resolution regarding the human rights situation in the People's Republic of China; it worked to encourage countries to ratify international and regional human rights instruments; it provided the Commission on Human Rights with information about human rights abuses in Iraq and numerous other countries; and it continued to work with the regional organizations and human rights commissions in Latin America, Europe, and Africa. See AMNESTY INTERNATIONAL, *supra* note 156, at 17-18.

surprised by the force of its ideas.<sup>158</sup> Of the two major United Nations human rights covenants that followed the Declaration, the Covenant on Civil and Political Rights has the more extensive monitoring and enforcement mechanism.<sup>159</sup> This Covenant requires member countries, comprising about half of the United Nations membership, to submit reports on measures adopted to comply with the Covenant.<sup>160</sup> These reports are sent to a Human Rights Committee, established by the Covenant and made up of independent experts, which reviews the reports and summons each state submitting a report before the Committee for a hearing.<sup>161</sup> Although the Committee takes a narrow view of its powers to evaluate or comment on the reports, it has worked closely with NGOs to determine its line of questioning,<sup>162</sup> and individual members of the Committee often use information obtained from NGOs to formulate penetrating questions.<sup>163</sup>

The Optional Protocol, adopted at the same time as the Covenants, permits individuals to submit petitions regarding violations directly to the Human Rights Committee.<sup>164</sup> When a petition is submitted, the Committee must make a substantive compliance determination, but the decision is neither binding nor appealable. There are no oral hearings and many of the petitions receive only a cursory review. The Committee's jurisdiction is limited. It can

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158. Buergenthal, *International Human Rights Law and Institutions: Accomplishments and Prospects*, 63 WASH. L. REV. 1, 6 (1988). Buergenthal lists the release of dissidents in the Soviet Union and the defeat of Marcos, Duvalier, and many military regimes in Latin America as evidence of a climate less tolerant of governments that violate human rights. *Id.* at 18-19.

159. International Covenant on Civil and Political Rights, *opened for signature* Dec. 16, 1966, 999 U.N.T.S. 171 (entered into force March 23, 1976). The second covenant is the International Covenant on Economic, Social and Cultural Rights, *opened for signature* Dec. 16, 1966, 993 U.N.T.S. 3 (entered into force Jan. 3, 1976).

160. International Covenant on Civil and Political Rights, *supra* note 159, art. 40, para. 1. By 1987, the Covenant was ratified by 86 states. UNITED NATIONS, HUMAN RIGHTS: STATUS OF INTERNATIONAL INSTRUMENTS (1987). By mid-1982, 55 reports had been submitted to the Committee on Human Rights and 40 had been considered. Quite a few reports, required a year after ratification, were submitted late. Instead of encouraging states to be more forthcoming, the Committee adopted a five-year reporting cycle. D. HARRIS, CASES AND MATERIALS IN INTERNATIONAL LAW 549 (3d ed. 1983).

161. Donnelly, *supra* note 3, at 609-10. Two weaknesses have been identified with this procedure. First, the Committee takes only reports from countries that are parties to the Covenant. Second, the reports of the Human Rights Committee are often unpenetrating and do not make formal evaluations of party compliance or violations of the Covenant. However, the procedure of public questioning has, according to Donnelly, resulted in some behavioral changes by states charged with human rights violations. "Feedback loops" develop between international obligations and domestic practices which reinforce regime norms of behavior. *Id.* at 610-11.

162. Fischer, *International Reporting Procedures*, in GUIDE TO INTERNATIONAL HUMAN RIGHTS PRACTICE 180 (H. Hannum ed. 1984) [hereinafter HUMAN RIGHTS PRACTICE]. The Human Rights Committee apparently receives so much material from governments that it welcomes the input of NGOs as preliminary organizers and evaluators of the material. Fischer cites the *U.N. Bulletin of Human Rights*, which reports that NGOs meet with staff of the Committee prior to its sessions "in order to identify those matters it would seem most helpful to discuss with the reporting state." *Id.*

163. Donnelly, *supra* note 3, at 610.

164. Optional Protocol to the International Covenant on Civil and Political Rights, *opened for signature* Dec. 16, 1966, 999 U.N.T.S. 302 (entered into force March 23, 1976) [hereinafter Optional Protocol].



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consider petitions against only the approximately forty-five countries that are parties to the Protocol,<sup>165</sup> and it cannot consider anonymous petitions, if domestic remedies have not been exhausted, or if the matter is under consideration in another international forum.<sup>166</sup> The Committee's authority to reprimand a state is limited to forwarding its views to the state concerned and to the petitioning individual.<sup>167</sup> Given the risks to the petitioner and the limited potential for redress, it is not surprising that the Human Rights Committee has considered on average only twenty to twenty-five petitions a year.<sup>168</sup> Despite its limitations, about half of the petitions received were considered admissible and, in the majority of those cases, the Committee found a breach of the Covenant.<sup>169</sup>

The Commission on Human Rights, established under the United Nations Economic and Social Council (ECOSOC) and strengthened by a 1970 ECOSOC resolution, has the greatest potential for monitoring human rights violations.<sup>170</sup> Prior to 1970, the thousands of petitions received every year alleging violations were simply filed without review by the Commission.<sup>171</sup> The resolution expanded the Commission's authority to receive complaints, directing the Commission to investigate complaints from NGOs or individuals that appear to reveal a "consistent pattern of gross and reliably attested human rights violations" in any state.<sup>172</sup> The resolution also authorized the Commission to appoint a committee to conduct fact-finding within the state being investigated. While no such fact-finding has been undertaken, regime norms are promoted simply by raising the specter of investigations.<sup>173</sup>

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165. *Id.* at art. 1.

166. Optional Protocol, *supra* note 164, arts. 3, 5, para. 2. The Human Rights Committee has held that the bar against submitting the same matter before more than one international procedure for investigation under article 5, paragraph 2(a) did not apply to the Committee because it is charged with finding patterns of human rights abuses, as well as making determinations in individual cases. See Van Boven, *Protection of Human Rights Through the United Nations System*, in HUMAN RIGHTS PRACTICE, *supra* note 162, at 51.

167. Optional Protocol, *supra* note 164, art. 5, para. 4. Perhaps the most effective part of the petitioning procedure is that the state must respond to the alleged allegations within six months of being alerted to the petition by the Committee. *Id.* at art. 4.

168. A. ROBERTSON & J. MERRILLS, *HUMAN RIGHTS IN THE WORLD* 58 (1989). For additional information on petitions, see Donnelly, *supra* note 3, at 611. See also D. HARRIS, *supra* note 160, at 552.

169. A ROBERTSON & J. MERRILLS, *supra* note 168, at 66.

170. The Commission on Human Rights has been criticized for its inertia. At its first meeting, the Commission determined that it had no power to consider petitions. Farer termed this a "self-inflicted wound" further compounded by ECOSOC limits placed on the Committee's review of the details of petitions submitted. Farer, *supra* note 152, at 555.

171. D. HARRIS, *supra* note 162, at 533. The Committee heard only petitions brought by states. In certain cases, the Committee has appointed a Working Group to investigate charges and then to report back to the Commission. The Commission used this procedure to investigate Israel's conduct in the occupied territories, apartheid practices in South Africa and Namibia, and the control of opposition in Chile. *Id.*

172. *Id.*

173. Donnelly, *supra* note 3, at 614, 616.

Although the resolution cleared away a number of the drawbacks in the authority of the Commission on Human Rights, serious problems remain. The Commission's members are state representatives, not independent experts, and, as a result, their work has been politicized.<sup>174</sup> The Commission members also appear to be remarkably isolated from their work.<sup>175</sup> Working Groups established by the Commission must examine petitions in private and only occasionally refer summaries of petitions to the Commission. This screening procedure has inhibited the Commission from adopting a more activist role in uncovering human rights abuses.<sup>176</sup> In 1978, the chairman of the Commission began announcing the identity of countries that were the subject of consideration, but the proceedings have remained secret.<sup>177</sup> As a result, individuals increasingly look to the Covenant's Human Rights Committee and the regional regimes in Europe and Latin America as more responsive venues for redress of individual grievances.<sup>178</sup>

## 2. Monitoring Under the European and Inter-American Regimes

In 1948, shortly after the Universal Declaration was adopted, Europe fashioned a sister convention, the European Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention).<sup>179</sup> At the same time, the Organization of American States (OAS) adopted its American Declaration of the Rights and Duties of Man,<sup>180</sup> which was followed in 1969 by the American Convention on Human Rights (American Convention).<sup>181</sup> Most recently, the Organization of African Unity has embraced a regional human rights regime modelled on the European and Inter-American regimes.<sup>182</sup>

The European Convention is enforced by means of state and individual applications made to the European Commission on Human Rights in Strasbourg. The Commission's members are independent experts, usually lawyers,

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174. D. HARRIS, *supra* note 162, at 533.

175. Farer, *supra* note 152, at 572. Farer ascribes the Commission on Human Rights' reluctance to aggressively fulfill their mandate to ECOSOC's determination that the Commission should not even see the original text of specific complaints.

176. *Id.* at 555.

177. A. ROBERTSON & J. MERRILLS, *supra* note 168, at 75.

178. D. HARRIS, *supra* note 162, at 534.

179. European Convention for the Protection of Human Rights and Fundamental Freedoms, *opened for signature* Nov. 4, 1960, Eur. T.S. No. 5, 213 U.N.T.S. 221 (entered into force Sept. 3, 1953) [hereinafter European Convention].

180. American Declaration of Rights and Duties of Man, May 2, 1948, O.A.S. Off. Rec. OEA/Ser. L./V/II.23/doc. 21/rev. 6 (1948).

181. American Convention on Human Rights, *opened for signature* Nov. 22, 1969, O.A.S.T.S. No. 36, 9 I.L.M. 673 (entered into force July 18, 1978) [hereinafter American Convention].

182. Gittleman, *The African Commission on Human and Peoples' Rights: Prospects and Procedures*, in HUMAN RIGHTS PRACTICE, *supra* note 162, at 156.

from each member state. The primary work of the Commission is to screen the applications for admissibility. The Commission's decisions are published, as are its opinions regarding breaches of the Convention.<sup>183</sup> Decisions to deny applications are appealable to the European Court on Human Rights.<sup>184</sup> The fact that few states have submitted applications parallels the experience of the United Nations Human Rights Committee and Human Rights Commission. The vast majority of the applications to the Commission are from individuals. While only eleven interstate applications have been submitted, individual petitioners have submitted over 12,000 claims.<sup>185</sup>

Individuals, NGOs, or groups of individual petitioners can submit applications against states that have accepted the right of individual petition.<sup>186</sup> The European Commission on Human Rights then conducts fact-finding and, if necessary, visits to the state charged with violations.<sup>187</sup> If the Commission is unable to secure an acceptable compromise between the parties, it forwards a report to the Ministers of the Council of Europe to consider the case for appeal to the European Court of Human Rights.<sup>188</sup> Again, the defendant state must either have accepted the jurisdiction of the Court or have agreed to it in the particular case.<sup>189</sup> The decisions of the Court are considered final,<sup>190</sup> and are binding under an article of the European Convention that instructs member states to abide by the decisions of the Court.<sup>191</sup>

The application process appears to be moderately effective. The European Commission on Human Rights deems the vast majority of the petitions inadmissible -- out of the 12,000 petitions that have been submitted, only 500 (or four percent) have been admitted.<sup>192</sup> However, petitioners have direct access to the Commission,<sup>193</sup> as complaints need not be espoused by the petitioner's

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183. Boyle, *Practice and Procedure on Individual Applications Under the European Convention on Human Rights*, in HUMAN RIGHTS PRACTICE, *supra* note 162, at 135.

184. *Id.*

185. A. ROBERTSON & J. MERRILLS, *supra* note 168, at 110.

186. European Convention, *supra* note 179, art. 25.

187. *Id.* at art. 28.

188. *Id.* at art. 31.

189. *Id.* at art. 46.

190. *Id.* at art. 52.

191. *Id.* at art. 53. Although the European Court of Human Rights cannot instruct a state on how to change a national law that violates the European Convention, it can suggest what practice would conform with the Convention. See *The Marckx Case*, 31 Eur. Ct. H.R. (ser. A) (1979).

192. M. JANIS, *AN INTRODUCTION TO INTERNATIONAL LAW* 183 (1988). The limitations on admissibility are similar to those under the Optional Protocol to the Covenant on Civil and Political Rights. See *supra* notes 164-66 and accompanying text. The petitioner must exhaust domestic legal remedies (European Convention, *supra* note 179, art. 26), must have applied within six months of the date of the final domestic decision (*id.* at art. 26), and must make his or her identity known (*id.* at art. 27, para. 1(a)). Additionally, the matter cannot be before another international body for decision (*id.* at art. 27, para. 1(b)) and, if it is an abuse of the right of petition, ill-founded, or incompatible with the provisions of the European Convention, it can be dismissed (*id.* at art. 7, para. 2).

193. The European Commission on Human Rights has addressed the question of exhaustion of state remedies in individual cases. In *Donnelly v. United Kingdom*, the Commission held that if a violation were

state.<sup>194</sup> Additionally, the cases that are decided by the Commission or by the European Court of Human Rights often influence state practice with regard to similarly situated individuals.<sup>195</sup> Similar to the Optional Protocol of the U.N. Convention on Civil and Political Rights, the European regime allows states to submit voluntarily to petitions by individuals.<sup>196</sup> All twenty-one member states of the European Convention have agreed to this procedure, which makes it theoretically available to over 300 million people.<sup>197</sup>

After the European regime, the Inter-American regime is the most developed regional human rights regime. In 1960, the OAS established the Inter-American Commission on Human Rights (Inter-American Commission) to enforce the American Declaration of the Rights and Duties of Man (American Declaration). In 1969, the OAS elaborated upon the American Declaration and strengthened the role of the Commission by creating the Inter-American Court of Human Rights (Inter-American Court).<sup>198</sup> The admissibility requirements of the Commission are similar to the European example.<sup>199</sup>

Because all members of the American Convention are subject to individual petitions, its legal powers are potentially greater than the European regime, although the American regime is less well-developed. It also works more closely with NGOs.<sup>200</sup> For example, the Inter-American Commission has advisory jurisdiction over complaints of human rights abuses by any state that

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related to the administrative procedures of the defendant state, the petitioner need not exhaust domestic remedies. *Donnelly v. United Kingdom*, 16 *Eur. Comm'n. H.R.* 212, 260 (1973).

194. A. ROBERTSON & J. MERRILLS, *supra* note 168, at 109. The authors explain that the concept of allowing an individual to present her own claim, rather than having her state espouse it, as is the practice in other areas of international law, was a remarkable innovation to overcome the obvious problems of an individual's state being the perpetrator of the human rights violation.

195. As a result of the European Court of Human Rights' decision in *Wemhoff*, West Germany changed its law to limit detention before trial to no longer than six months. *Wemhoff Case*, 8 *Eur. Ct. H.R.* (ser. A) (1968).

196. A. ROBERTSON & J. MERRILLS, *supra* note 168, at 109.

197. *Id.*

198. The Inter-American Court has jurisdiction both to consider controversial cases and to give advisory opinions. The advisory powers of the Court permit it to interpret the American Convention and any other treaties concerning the protection of human rights in the American states. A member state may request an opinion from the Court on the compatibility of any domestic law with the Convention and international treaties. American Convention, *supra* note 181, art. 64.

199. A. ROBERTSON & J. MERRILLS, *supra* note 168, at 176. There are almost no limits to standing. Third parties may include NGOs "legally recognized in one or more member states of the Organization." Norris, *The Individual Petition Procedure of the Inter-American System for the Protection of Human Rights*, in *INTERNATIONAL HUMAN RIGHTS PRACTICE*, *supra* note 162, at 112. Additionally, general and collective petitions may be filed to consolidate cases concerning multiple victims. *Id.* at 112. Domestic remedies are considered exhausted if a state exhibits a consistent pattern of interference with due process of law, does not have an independent judiciary, or has a poor human rights record. *Id.* at 113. The statute of limitations for bringing a case is relaxed if the victim has been imprisoned and has developed infirmities linked to the imprisonment, or if his or her freedom of communication has been interfered with or life endangered. *Id.* at 115.

200. See A. ROBERTSON & J. MERRILLS, *supra* note 168, at 191. However, as in the European Court of Human Rights, individuals cannot submit a case to the Inter-American Court if they are dissatisfied with the result of the Commission. *Id.* at 178.

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is a member of the OAS,<sup>201</sup> and is empowered to carry out investigations in order to compile a court record.<sup>202</sup> The Inter-American Court can order compliance with its decisions, including restitution and compensation, and has begun to exercise these powers.<sup>203</sup> Unfortunately, like the European Court of Human Rights, the jurisdiction of the Inter-American Court is optional, and states can choose to accept its jurisdiction for a limited period, either on condition of reciprocity or on an *ad hoc* basis.<sup>204</sup>

### 3. *Implications for the Montreal Protocol*

The integration of a broad range of NGOs within the structure of the human rights regime is unparalleled in other international regimes. By focusing international norms on domestic practice, NGOs and the monitoring and compliance mechanisms of the regime have formed a powerful partnership to remedy poor human rights practices. The investigatory work of the NGOs, including the review of reports submitted by countries, and the right of NGOs and individuals to petition courts and commissions, contribute significantly to the effectiveness of the human rights regime.

The European and Inter-American human rights regimes combine the authority of the highly regarded experts, who sit on their commissions and courts, with the commitment of NGOs and those individuals who have been subjected to the human rights abuses at issue. The courts of these regimes make legally binding decisions and, in the case of the Inter-American Court, the decisions are often based on aggressive fact-finding. Their procedures are among the strongest international legal mechanisms for accomplishing compliance with regime norms.

The Montreal Protocol regime is similar to the human rights regime in a number of ways. It has an active NGO and citizen network throughout member states that is ready and able to participate in the Montreal Protocol's implementation. The Protocol also relies on state practice to fulfill its goals, thus making state monitoring and compliance the key to its success. Finally, the parties to the Protocol have contemplated an investigatory function within the Montreal Protocol in adopting an interim Implementation Committee. Taking the strengths of the human rights regime -- its incorporation of NGOs, its impartial and highly regarded commissions and courts, and its reporting, investigations, and other feedback mechanisms for publicizing state practice -- and incorporat-

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201. HANDBOOK OF EXISTING RULES PERTAINING TO HUMAN RIGHTS, OAS Doc. OEA/Ser. L/II.65/doc. 6 (1985).

202. Norris, *supra* note 199, at 119. See also A. ROBERTSON & J. MERRILLS, *supra* note 168, at 192 (comparing the investigatory functions of the U.N. Committee, European Commission, and Inter-American Commission).

203. See A. ROBERTSON & J. MERRILLS, *supra* note 168, at 180, 187.

204. *Id.* at 192.

ing them into the Montreal Protocol regime would be a monumental step in strengthening not only the Protocol regime, but also the emerging environmental regime to which it belongs.

The International Labor Organization regime is similar to the human rights regime in many ways. It has monitoring and compliance mechanisms that closely review country compliance and incorporate public participation. It also, in cooperation with NGOs, has conducted fact-finding missions when a country's compliance is at issue. The regime builds on the human rights regimes in a very significant way. It has for its long history incorporated NGOs into its very system of governance. By having those whose interests are directly affected sit on the committees and formulate the policy of the organization, the International Labor Organization escapes many of the pitfalls of the United Nations Human Rights Commission and Human Rights Committee, and greatly enhances the likelihood of successful implementation of its labor standards into domestic policy of member states.

### C. *The International Labor Organization*

In 1919, the Treaty of Versailles established the International Labor Organization (ILO) as part of the League of Nations.<sup>205</sup> As its first Director-General proclaimed, the ILO was to get countries to "speak . . . the same language" on labor rights.<sup>206</sup> The ILO became a specialized agency of the United Nations and it has made enormous contributions to workers' rights through its international standard setting, implementation procedures, and technical assistance.<sup>207</sup>

ILO mechanisms for collecting information, issuing reports and using publicity as a means of encouraging state compliance, are the strongest in the United Nations system.<sup>208</sup> But the ILO is unique in another essential way. Its tripartite system of governance, in which representatives of the government, employers, and workers sit together in plenary sessions, has long recognized

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205. G. JOHNSTON, *THE INTERNATIONAL LABOUR ORGANISATION* 12-14 (1970).

206. J. MAINWARING, *THE INTERNATIONAL LABOUR ORGANIZATION: A CANADIAN VIEW* 4 (1986).

207. Swepston lists some of the ILO's most important conventions as those addressing "freedom of association, the right to organize, collective bargaining, the abolition of forced labor, discrimination in employment, indigenous people, minimum ages for child labor, vocational guidance and training, protection of wages, occupational safety and health, social security, employment of women, migrant workers, and labor administration." Swepston, *Human Rights Complaint Procedures of the International Labor Organization*, in *HUMAN RIGHTS PRACTICE*, *supra* note 162, at 75. The ILO adopts "conventions" and "recommendations" at its annual International Labor Conference, requires countries to examine adopted conventions for ratification, and supervises and criticizes those conventions countries have ratified. Recommendations are considered as legislative guidelines and are not ratified. Together, they make up the ILO's code of standards. *Id.* Technical Assistance is a more recent phenomenon in the organization and is used to help workers and governments implement the standards. Schlossberg, *United States' Participation in the ILO: Redefining the Role*, 11 *COMP. LAB. L.* 48, 59 (1989).

208. J. JOYCE, *WORLD LABOUR RIGHTS AND THEIR PROTECTION* 60 (1980).

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the value of incorporating nongovernmental interests in creating an international norm for workers' rights. Each delegation consists of two governmental representatives and one representative each for employers and workers.<sup>209</sup> The nongovernmental representatives, as they are called, have voting power equal to that of the government representatives, sit on the committees and commissions that review compliance,<sup>210</sup> and have full access to the information generated by member countries.<sup>211</sup>

### 1. *The Mutual Supervision Mechanism*

The ILO is well-known for its system of standard setting and mutual supervision, in which labor standards are regularly and systematically monitored. Through its legislative body, the International Labor Conference, the ILO has adopted approximately 300 conventions and recommendations, which have become an international code of standards for workers rights. Members are required to submit regular reports on the status of these standards within their countries.<sup>212</sup> In a practice that is highly unusual in international governance, the nongovernmental delegates are invited to comment on any assertions of compliance with which they disagree.<sup>213</sup>

As the number of standards grew, greater and greater numbers of reports were submitted. In order to continue to monitor implementation effectively, the International Labor Conference created two supervisory bodies, the Committee of Experts on the Application of Conventions and Recommendations, comprised of independent specialists in labor law, and a tripartite Conference Committee on the Application of Conventions and Recommendations.<sup>214</sup> The Committee of Experts conducts a preliminary review and notes any problems with compliance by making direct requests or observations. In the case of

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209. The nongovernmental representatives to be nominated are supposed to be those most representative of employers and workers respectively in their countries. ILO Constitution, art. 3, para. 5, *reprinted in* G. JOHNSTON, *supra* note 205, at 287.

210. See J. JOYCE, *supra* note 208, at 60.

211. ILO Constitution, arts. 3, 23, para. 2, *reprinted in* G. JOHNSTON, *supra* note 205, at 287, 297. If a state fails to nominate one of the nongovernmental representatives, the other can attend but not vote. ILO Constitution, art. 4, para. 2, *reprinted in* G. Johnston, *supra* note 205, at 287.

212. ILO Constitution, art. 19, *reprinted in* G. JOHNSTON, *supra* note 205, at 296. Under article 19, countries are to report on measures adopted to give effect to the standards, even if they have not ratified them. The reports under article 22 on implementation of ratified conventions are quite substantial and must include administrative regulations and court opinions. W. GALENSON, *THE INTERNATIONAL LABOR ORGANIZATION* 203 (1981).

213. ILO Constitution, art. 24, *reprinted in* G. JOHNSTON, *supra* note 205, at 297. The ILO Constitution explicitly recognizes the importance of NGO input on state reports. In addition to sending reports to the Committee, countries must send copies to the nongovernmental representatives in their delegations. ILO Constitution, art. 23, para. 2, *reprinted in* G. JOHNSTON, *supra* note 205, at 297.

214. The Committee of Experts on the Application of Conventions and Recommendations is composed of 19 independent experts on labor law from around the world. The Committee meets once a year to examine reports. Sweptson, *supra* note 207, at 76.

direct requests, the Committee works with a government, perhaps asking it to submit more information or to take certain measures. These requests are sent to the nongovernmental representatives, but are not otherwise published.<sup>215</sup> If there is no followup by the government, the Committee will make observations that, in addition to being sent to the government, are published in its annual report.<sup>216</sup> This method of review has been enormously successful.<sup>217</sup>

Based on the Committee of Expert's report, the Conference Committee on Application of Conventions and Recommendations chooses the most egregious or persistent cases of noncompliance and calls governments before it in hearings open to the public to explain the reasons for their noncompliance.<sup>218</sup> The Conference Committee then issues a report and a special list of countries failing to live up to their obligations. An extension of the special list procedure is the special paragraph procedure, which puts countries on notice that they may find themselves on the special list unless they take corrective action. The Conference Committee's lists and reports are usually adopted unanimously by the Conference and are public documents.<sup>219</sup>

Even those who are skeptical about the impartiality of the ILO give high marks to what easily could have become a highly politicized process of review.<sup>220</sup> The process of review ingeniously combines the authority of experts with the pressure of public opinion. As a result, governments anxious about being discussed in the Conference Committee's reports usually live up to their pledges. Thus, the process has been dubbed the "conscience of the ILO."<sup>221</sup>

## 2. *The Investigatory and Complaint Process*

There are four basic procedures for bringing complaints within the ILO regime: representations, complaints, special procedures for freedom of associa-

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215. Problems are often resolved at the direct request stage. Between 1964 and 1980, the Committee of Experts noted that in more than 1,300 cases, the governments took the steps requested of them. *Id.* at 77.

216. As a measure of the thoroughness of the Committee of Experts, the annual report is usually quite long. In 1980, the report was more than 200 pages. *Id.*

217. Ernst Haas has said of the "observations":

[t]he Committee's persistence in demanding full implementation of ratified Conventions is extraordinary. Year after year, in the case of certain recurring delinquencies, pressure continues to be exerted, with the wording of the "observations" developing more and more pungency. This is accomplished by maintaining a quasi-judicial stance. The conclusions of the Committee are considered by it as proposals based on law, to be submitted to the Conference and to be acted upon by that body. Nevertheless the pungency of the "observations" is unmistakable as the scale of terms is raised from surprise to amazement, incredulity, disapproval, reprobation, and finally condemnation.

E. HAAS, *BEYOND THE NATION-STATE* 257 (1964), *quoted in* W. GALENSON, *supra* note 212, at 204.

218. *Id.* at 205. *See also* J. JOYCE, *supra* note 208, at 60.

219. W. GALENSON, *supra* note 212, at 204-07.

220. W. GALENSON, *supra* note 212, at 204.

221. G. JOHNSTON, *supra* note 205, at 101.



tion violations, and special surveys on discrimination in employment.<sup>222</sup> Representations are brought by workers' or employers' organizations in cases of state noncompliance with ratified conventions, and involve minimal investigation and enforcement.<sup>223</sup> The ILO Governing Body can refer a representation case for more formal investigation if it decides it should be handled as a complaint or refer it for supervision to the Experts Committee.<sup>224</sup>

Complaints are similar to representations, but may be brought by a state that is a member of the convention at issue, a delegate of the ILO Conference (including the NGO delegates), or the ILO Governing Body itself.<sup>225</sup> A Commission of Inquiry, comprised of three independent persons, may be established to consider complaints on an *ad hoc* basis.<sup>226</sup> These commissions operate quasi-judicially and can conduct evidentiary hearings and site visits to gather information.<sup>227</sup> A state may appeal to the ICJ if it does not accept the Commission's recommendation. The appeal procedure has never been invoked, which reflects the high degree of resolution that is achieved through less formal procedures.<sup>228</sup> As testimony to the success of the mutual supervision mechanisms as a means of ensuring party compliance, only ten representations have been investigated and only four cases considered by the Commissions.<sup>229</sup>

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222. The fourth procedure has not been implemented yet, so it will not be discussed in this article.

223. ILO Constitution, art. 24, *reprinted in* G. JOHNSTON, *supra* note 205, at 297. A representation may be brought against a member state if it "has failed to secure in any respect the effective observance within its jurisdiction of any Convention to which it is a party." *Id.* The Governing Body determines whether the organization meets the definition of an organization. However, it may be a local, national, or international organization, and it need have no direct connection to the subject of the complaint. The ILO Governing Body then determines, based on a *prima facie* reading of the facts as stated, whether the representation should be sent to the state for a response. The representation, along with the state's response and the Governing Body's own discussion of the case, is published if the state's response is not satisfactory. Sweptson, *supra* note 207, at 81.

224. Sweptson, *supra* note 207, at 82.

225. Under the complaint procedure, any member state of the ILO can file a complaint. It need not suffer from any direct effect from the defendant state's noncompliance. Additionally, motive is not considered important. Five states have brought such cases. Delegates bring complaints more frequently than states and usually do so in groups. The Governing Body has initiated the procedure only once. *Id.* at 82-83.

226. J. JOYCE, *supra* note 208, at 61.

227. Commissions of Inquiry set their own rules and procedures. They often summon state representatives and witnesses to hearings, gather information from other governments and NGOs, and conduct on-site visits to the countries concerned. The Commissions are considered quasi-judicial and their decisions are communicated to the Governing Body and published in the ILO's official bulletin. The Commission's decisions recommend changes in practice within the countries concerned. Sweptson, *supra* note 207, at 83-84.

228. The ICJ can confirm, modify, or reverse any of the findings or recommendations of the Commission of Inquiry. If a country fails to comply with the Commission or ICJ decisions within the time specified, the Governing Board can recommend to the Conference any further action it believes might encourage compliance. *Id.* at 84-85.

229. J. JOYCE, *supra* note 208, at 61.

In 1950, the ILO initiated a system to expedite review of cases involving violations of its conventions on freedom of association.<sup>230</sup> Quick action was needed to respond to cases of sudden violations, such as jailing trade union activists or suppressing workers' strikes.<sup>231</sup> In response, the ILO Governing Body created special procedures for accepting and acting upon complaints.<sup>232</sup> The Committee on Freedom of Association receives complaints directly from workers' and employers' organizations. It may refer exceptional cases to the Fact-Finding and Conciliation Commission.<sup>233</sup> Both organizations can conduct on-site investigations.<sup>234</sup> The ILO has made impressive use of the Committee on Freedom of Association. Between 1950 and 1980, more than 1000 cases were considered concerning a broad variety of free association claims.<sup>235</sup>

### 3. *Implications for the Montreal Protocol*

The ILO is unique in its formal incorporation of nongovernmental representatives in its governance. Its legislative Conference and Governing Body are made up of workers' and employers' organizations as well as governments, and its various committees draw membership from this tripartite group. Nongovernmental representatives can review compliance reports, bring complaints, sit on committees, and order investigations as committee members. Often NGO delegates work closely with their own states through these international mechanisms. Additionally, even NGOs who do not have representative status can bring complaints through the representation process and the Committee on Freedom of Association.

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230. The most prominent conventions are the 1948 Convention on the Freedom of Association and the 1948 Right to Organize and Collective Bargaining Convention. However, there is no requirement that a state have ratified either of these conventions, since the authority to act on freedom of association violations derives from the ILO Constitution itself. Swepton, *supra* note 207, at 86.

231. W. GALENSON, *supra* note 212, at 207.

232. ILO Constitution, arts. 26-34, reprinted in G. JOHNSTON, *supra* note 205, at 297-99. The Governing Body established four ILO committees that monitor compliance with the right to freedom of association: 1) the Committee of Experts on the Application of Conventions and Recommendations; 2) the International Labor Conference Committee on the Application of Conventions and Recommendations; 3) the Governing Body Committee on the Freedom of Association; and 4) the Fact-Finding and Conciliation Committee on the Freedom of Association. Schlossberg, *supra* note 207, at 62.

233. The FFCC can receive complaints referred to it by the Governing Body, on recommendation from the CFA, by ECOSOC, or directly from the state suspected of having committed freedom of association violations. A state defending itself in the CFA may choose to refer the case to the FFCC. The Committee is activated only in extremely delicate political cases. FFCC has the dual roles of investigator and conciliator. Its decisions have no legal force, but they can be monitored by other ILO bodies. Swepton, *supra* note 207, at 89-90.

234. W. GALENSON, *supra* note 212, at 207. The Fact-Finding and Conciliation Committee has been activated only five times. Swepton, *supra* note 207, at 88. The Committee on Freedom of Association, on the other hand, has reviewed many cases. W. GALENSON, *supra* note 212, at 207.

235. Swepton, *supra* note 207, at 85. In a number of cases, workers who were imprisoned or who had received the death sentence were released. The Committee on Freedom of Association also is credited with obtaining the release of over 400 trade unionists. *Id.* at 85.

The ILO's system of mutual supervision and complaint procedures makes full use of information and is investigating power to encourage states to comply with their obligations. The process of review or mutual supervision -- requiring reports to be submitted first to a committee made up of experts and then to a more political committee -- allows feedback that helps compel states to comply with ILO standards. States are "punished" by being listed or having a representation against them published if they fail to comply. If this process does not achieve compliance, NGOs, the ILO Governing Body, or any member state may bring actions. The mere availability of recourse to complaint mechanisms has undoubtedly strengthened the authority of the mutual supervision process.

The integration of NGOs in the ILO regime is a far cry from their nascent, and somewhat hesitant, integration under the Montreal Protocol. Giving NGOs a role in implementing the Protocol would be an enormously positive step in reinforcing the restrictions in the Protocol. A governing body for the agreement -- similar to the ILO -- could draw from environmental and industrial representatives as well as government officials, and committees could be established patterned on the mutual supervision and complaint procedures of the ILO. The process of review and listing would put a premium on compliance regime for those parties most concerned about their standing among other parties.

The final regime to be considered is the nuclear nonproliferation regime, a regime that makes monitoring and physical inspections of nuclear material and technology its central focus. Unlike the first two regimes considered, this regime conducts routine physical inspections to verify compliance with its norms.

### *D. The Nuclear Nonproliferation Regime and the IAEA*

For a quarter of a century, the International Atomic Energy Agency (IAEA) has been the heart of the nuclear nonproliferation regime.<sup>236</sup> In response to President Eisenhower's "Atoms for Peace" proposal, the IAEA was created in 1957 as an autonomous organ of the United Nations.<sup>237</sup> While the IAEA has played a significant role in promoting the commercial use of nuclear power, its principle function today is to verify, through safeguard procedures and on-site inspections, that nuclear facilities and radioactive materials are used for peaceful purposes and not diverted to weapons production.

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236. L. SCHEINMAN, *THE NONPROLIFERATION ROLE OF THE INTERNATIONAL ATOMIC ENERGY AGENCY: A CRITICAL ASSESSMENT* (1985) [hereinafter L. SCHEINMAN, *NONPROLIFERATION*]. The author describes the nonproliferation regime as a "loose collection of predispositions, understandings, bilateral agreements, voluntary commitments, and treaties featuring formal pledges not to acquire nuclear weapons or explosives that are verified by international inspection." *Id.* at 6.

237. Statute of the International Atomic Energy Act, July 29, 1957, 8 U.S.T. 1095, 276 U.N.T.S. 3; amended May 22, 1961, 14 U.S.T. 135, 471 U.N.T.S. 334 [hereinafter IAEA statute].

The inspection mechanism is the critical component of the safeguard procedures. Between 1968 and 1982, the IAEA's staff of inspectors conducted 9,600 inspections, two-thirds of which were conducted in the last four years of this period.<sup>238</sup> In 1984, over 875 installations were under IAEA safeguards, comprising ninety-seven percent of the nuclear plants in states without nuclear weapons.<sup>239</sup>

As nuclear testing by the superpowers escalated and nuclear material began to proliferate, global concern over military use grew. By the late 1960s, the nonnuclear countries were ready to trade their theoretical right to develop nuclear weapons for the tangible benefits of a system of safeguards and nuclear security. The Latin American Nuclear Free Zone Treaty (Tlatelolco Treaty) and the Nuclear Non-Proliferation Treaty (NPT) were formed in response to this new attitude.<sup>240</sup> The treaties imposed legal obligations on all member states to submit to IAEA safeguard procedures, thereby closing a critical loophole in the IAEA statute.<sup>241</sup>

### 1. *The IAEA and Its Safeguard Procedures*

On-site inspections are central to the safeguard procedures.<sup>242</sup> The IAEA statute allows the IAEA "access at all times to all places and data" as necessary to determine compliance and to assure that the agency's health and safety standards are met.<sup>243</sup> Additional authority was granted by the NPT, which requires "that the diversion of significant quantities of nuclear material from peaceful activities be promptly detected."<sup>244</sup> The broad reach of the language of the statute and treaty has been narrowed by the IAEA's safeguard guidelines, which instruct the agency to keep inspections to the minimum necessary and to avoid hampering the economic and technological development of the state.<sup>245</sup> Additionally, the guidelines put inspection under considerable control by the state. Member states are given at least twenty-four hour notice, and

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238. L. SCHEINMAN, *THE IAEA AND NUCLEAR WORLD ORDER* 150 (1987) [hereinafter L. SCHEINMAN, *WORLD ORDER*].

239. *Id.* at 149-50.

240. Treaty for the Prohibition of Nuclear Weapons in Latin America, Feb. 14, 1967, 22 U.S.T. 762, T.I.A.S. No. 7137; Treaty on the Non-Proliferation of Nuclear Weapons, July 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161 [hereinafter NPT].

241. Dunn, *Four Decades of Nuclear Non-Proliferation: Some Lessons from Wins, Losses, and Draws*, 13 WASH. Q., No. 3, at 5 (summer 1990).

242. The IAEA safeguard program at the Iraq Tammuz nuclear reactor has been the recent topic of attention in the Persian Gulf War. When the reactor was bombed by Israel in 1981, the IAEA recovered the uranium located on the site. Now it inspects the uranium periodically. N.Y. Times, Jan. 21, 1991, at A6, col. 4. The agency also confirms whether supplies of imported fuel are there during its biannual visits. N.Y. Times, Dec. 28, 1990, at A35, col. 1.

243. IAEA Statute, *supra* note 237, art. XII, para. 6. Recently, the IAEA inspected Eastern European nuclear plants and found numerous violations of its standards. N.Y. Times, June 7, 1990, at A1, col. 2.

244. L. SCHEINMAN, *NONPROLIFERATION*, *supra* note 236, at 26.

245. L. SCHEINMAN, *WORLD ORDER*, *supra* note 238, at 136.

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have the right to approve inspectors and to accompany them during their inspections.<sup>246</sup>

In order to implement the safeguards, the agency must negotiate an agreement with the nation where it wishes to verify compliance on a facility-by-facility basis.<sup>247</sup> Nonetheless, between 1961 and 1983, the agency entered into 159 safeguard agreements with 92 states.<sup>248</sup> One of the main features of the agreements is its record-keeping procedure. Most of the information collected is kept confidential. Thus, there is very little access to specific information, making it difficult to evaluate the effectiveness of the safeguard procedures.<sup>249</sup>

### *2. Implications for the Montreal Protocol*

In regard to the Montreal Protocol, the most relevant feature of the IAEA is its system of inspections. In addition to the committee and commission mechanisms of the human rights and ILO regimes, a verification committee could be created under the Protocol to conduct routine inspections and to verify reductions in the production and use of restricted chemicals. This committee could also perform the investigations for compliance committees or commissions. There are several other features of the IAEA that are attractive candidates for inclusion in a Montreal Protocol authority. First, the IAEA's dual purpose of monitoring and providing technical assistance could serve as a role model for softening resistance to perceived incursions into state sovereignty. Thus, a verification committee under the Protocol might not only conduct inspections, but also may provide on-site technical assistance during the transition to substitute chemicals and processes. Second, the IAEA has for years served as a clearinghouse for nuclear information and technology. A verification committee under the Protocol could provide information on substitutes and aid in the technical administration of the Multilateral Fund.

## V. BUILDING A MONITORING AND COMPLIANCE REGIME UNDER THE MONTREAL PROTOCOL

The parties to the Montreal Protocol are poised to debate a noncompliance mechanism for the agreement in June 1991. While the noncompliance provisions are not scheduled for adoption until the 1992 meeting, the parties are

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246. However, parties negotiating renewal of the NPT recently agreed to on-site random inspections in countries suspected of diverting nuclear material and technology, but the negotiations failed over unrelated test-ban language. N.Y. Times, Sept. 16, 1990, at A5, col. 1.

247. L. SCHEINMAN, WORLD ORDER, *supra* note 238, at 136.

248. L. SCHEINMAN, NONPROLIFERATION, *supra* note 236, at 27.

249. L. SCHEINMAN, WORLD ORDER, *supra* note 238, at 136.

expected to discuss progress made during the meeting of the open-ended *Ad Hoc* Working Group of Legal Experts.<sup>250</sup> The interim Implementation Committee is a positive recognition that compliance mechanisms, similar to those of the human rights and ILO regimes, might be attractive in the context of the Protocol.<sup>251</sup>

The regimes described above suggest that there is more the parties can and must do to put an effective monitoring and compliance regime in place. First, NGOs must be involved in the compliance regime chosen. The power of the environmentalists and industry in the ozone layer debate attests to the role of private actors in determining global norms. After all, it is the behavior of individuals, NGOs and industry that international law ultimately seeks to regulate, and their participation in the enforcement of the Montreal Protocol can play an important legitimizing role. Additionally, NGOs are purveyors of information generated within states, and can provide indispensable political and scientific information to inform international implementation efforts. Second, open and routine mechanisms to review compliance can generate "peer pressure" among states interested in maintaining their standing abroad. However, the reporting and review mechanisms of the current Montreal Protocol regime, as illustrated by the poor reporting record of states professing strong support for the agreement, are not creating the peer pressure that the ILO system of mutual supervision generates. Finally, verification of data and reports on party compliance can improve the accuracy of reporting by states. As the ILO recommendations and observations system illustrates, many problems with state compliance can be resolved positively in the early phases of noncompliance. Additionally, as the Inter-American Court and the ILO Committee on Freedom of Association demonstrate, investigations can be critical in resolving later complaints of noncompliance. Thus, these three factors -- NGO integration, verification of compliance, and open and routine monitoring -- must form the core of any proposal to put in place an effective compliance regime for the Montreal Protocol. A model for this compliance regime is discussed below.

#### *A. Incorporating NGOs into the Compliance Regime*

The Montreal Protocol fails to create a positive role for NGOs. By keeping them on the outside, the regime not only loses an opportunity to make use of their strengths but also risks making their participation adversarial. For example, under the agreement, NGOs and industrial representatives must notify the UNEP Secretariat of their interest in attending meetings of the parties.<sup>252</sup>

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250. Telephone Interview with Stephen Seidel, Stratospheric Protection Program, Office of Air and Radiation, EPA (May 2, 1991). See *supra* note 99 and accompanying text.

251. London Amendments, *supra* note 4, annexes III & IV *passim*, annex V, at 13.

252. Montreal Protocol, *supra* note 4, art. 11, para. 5.

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They will be invited only if two-thirds of the parties assent to their participation as observers.<sup>253</sup> This provision alone betrays an attitude toward NGOs that is vastly different than that found in the human rights and ILO regimes.

The parties should affirm a role for NGOs in the governance and implementation of the Montreal Protocol. Thus, NGOs should be incorporated in any governing body or committee that might set policy for the agreement. Additionally, they should be members of committees monitoring compliance. Finally, they should be empowered to bring complaints against states failing to live up to their obligations.

In a manner similar to the ILO nominating process, which requires countries to nominate those nongovernmental delegates most representative of their respective constituents,<sup>254</sup> NGOs might be nominated according to their past or potential contributions to domestic and international progress toward the elimination of ozone-depleting chemicals. NGO and industrial interests should have the right to appeal directly to the UNEP Secretariat to participate on the governing and implementing bodies of the agreement if they are not selected by their home country or if their country is not a member of the Montreal Protocol. The governing body of the Protocol should scrutinize party nominations that are not representative of the public or their constituents or are selected primarily for other reasons (e.g., those who would rarely take a position different from that of their governments).

### *B. The Governing Body and Annual Meeting of the Parties*

The parties should adopt a governing body, comprised of developed and developing countries, NGOs, and industrial representatives -- no single category of which should have veto power -- to formulate policy for the meeting of the parties. This should in no way preempt parties from recommending amendments under the current procedures. The governing body should have a staff that aids in the implementation of the agreement and in coordinating any Working Groups and meeting of the parties.

Under the Montreal Protocol, the parties are to meet on a regular basis.<sup>255</sup> Since the Protocol was adopted in 1987, the parties have met on an annual basis,<sup>256</sup> and every meeting has been of enormous importance, even if just to build a groundswell of support for strengthening amendments. To create the expectation that the parties will put a high priority on reviewing the

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253. *Id.*

254. ILO Constitution, art. 3, para. 5, reprinted in G. JOHNSTON, *supra* note 205, at 287.

255. Montreal Protocol, *supra* note 4, art. 11.

256. The ILO meets once a year for its legislative Conference and to review reports from member states in its Conference Committee on the Application of Conventions and Recommendations. See *supra* note 212 and accompanying text.

compliance of the parties as well as the adequacy of the agreement, the annual meetings should continue to serve as a forum to consider the progress of the agreement, the adoption of amendments, and reports from committees.

### *C. Creation of a Monitoring and Compliance Mechanism*

The human rights, ILO, and IAEA regimes make extensive use of monitoring and compliance mechanisms to encourage countries to abide by their norms. The Montreal Protocol is well-structured for similar monitoring and compliance mechanisms. The annual reporting requirements, the trade provisions, and Multilateral Fund all provide opportunities for review by committees set up under the agreement. The parties could make the Implementation Committee a permanent body and enhance its powers or create a number of new committees that would report to the governing body and the meetings of the parties.

If the parties chose to create several committees, the first committee could conduct fact-finding investigations similar in procedure to those conducted under the ILO Commissions on Inquiry and the Committees on Fact-finding and Conciliation and Freedom of Association. Modelled on the IAEA, this verification committee could consist of trained technical experts who would carry out routine investigations and verification in member countries.<sup>257</sup> The committee's mandate could include verification of compliance and investigation of general problems of compliance and specific instances of noncompliance.<sup>258</sup> In its investigations of noncompliance, the committee might work closely with those providing technical assistance through the Multilateral Fund.<sup>259</sup> Ultimately, the committee could be responsible for dispensing a strategic reserve of CFCs and other restricted chemicals for essential uses in a manner similar to the IAEA repository of nuclear materials.<sup>260</sup> Because trade between member states is one of the incentives for states to join or comply with the agreement, there should be a penalty for trading restricted products with nonparties, a prospect that becomes increasingly complicated as

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257. The IAEA works closely with states to nominate inspectors. See L. SCHEINMAN, *WORLD ORDER*, *supra* note 238, at 237-38, and accompanying text. This system might be attractive in the context of the Montreal Protocol. Local technical experts might work with technical experts from developed countries in installing technology and monitoring compliance.

258. The ILO routinely conducts factual surveys under its work on freedom of association. G. JOHNSTON, *supra* note 205, at 156-57.

259. The Multilateral Fund is instructed to provide technical assistance through other U.N. specialized agencies, such as the U.N. Development Programme and UNEP, to countries receiving funds. London Amendments, *supra* note 4, annex IV.

260. The IAEA was conceived as an international agency that would control all nuclear material. However, the practice today is for IAEA to control the nuclear material it uses in joint projects with member states and to take possession when a member country has more than what they need for peaceful purposes. L. SCHEINMAN, *NONPROLIFERATION*, *supra* note 236, at 24-25.



the list of chemicals and products expands. The committee could inspect cargo shipments to verify that trade between parties and nonparty states was free of restricted raw chemicals, products, and technologies.

A second committee could receive the reports that are required by the Montreal Protocol and its amendments.<sup>261</sup> With sixty countries now members of the agreement, there is ample technical information to evaluate the effectiveness of national control programs. This compliance review committee might be modelled on the ILO Committee of Experts on the Application of Conventions and Recommendations, which makes recommendations to states and issues observations in reviewing compliance of states with ILO labor standards in its annual report on cases of noncompliance.<sup>262</sup>

In a manner similar to the ILO review mechanism, the compliance review committee's report could either be transmitted to the Implementation Committee, if it is made permanent, or to the governing body. The Implementation Committee should evaluate the most egregious cases of noncompliance for action, perhaps promulgating a list of countries similar to the ILO procedure for special listing.<sup>263</sup> Again following the ILO model, the nongovernmental representatives would have a role in this review; they should be included in the evaluation of party reports and be given a forum to register any disagreement with those reports.<sup>264</sup>

A third committee should be structured to hear noncompliance complaints, as now provided under the Montreal Protocol's interim noncompliance provision. The committee also should receive complaints from NGOs and concerned citizens, who may know more about the compliance activities within their states than other party states. The noncompliance committee would have the authority to direct the verification committee to conduct on-site investigations. The threshold for screening complaints should be kept low until the usefulness of the procedure in encouraging compliance can be ascertained.

The recommendations of the committee could be appealed to a special court, modelled on the European and Inter-American Courts for human rights cases.<sup>265</sup> In order to encourage early resolution, parties failing to abide by the decisions of the noncompliance committee should have their trade benefits

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261. Montreal Protocol, *supra* note 4, arts. 7, 9. The amendments to article seven require parties to submit data annually on their production, imports, and exports and destruction of restricted chemicals. London Amendments, *supra* note 4, annex II, at 10-11. The Protocol also requires parties to provide the UNEP Secretariat every two years with a summary of actions taken to promote the use of substitute technology and chemicals within their own countries and internationally; and to report on the costs and benefits of control strategies. Montreal Protocol, *supra* note 4, art. 9.

262. See *supra* notes 215-17 and accompanying text.

263. See *supra* notes 218-20 and accompanying text.

264. See *supra* note 209.

265. A judge on the Italian Supreme Court has put forward a proposal for a new "International Environmental Court of Justice." See *In the Global Public Interest*, ENVTL. FORUM, Sept.-Oct. 1989, at 37.

or funding under the Multilateral Fund revoked. In general, the trade penalties for nonparties should apply to noncomplying parties.<sup>266</sup>

#### *D. Placement of Experts on Compliance Committees*

One of the critical features of the human rights and ILO monitoring and compliance committees is the impartiality and expertise their members bring to the review and recommendations functions.<sup>267</sup> When state representatives serve as members of such committees, as in the case of the ECOSOC Human Rights Commission, they pursue violations far less aggressively and tend to politicize the Committee's work.<sup>268</sup> It is important that the initial review of country reports be conducted by committees of experts whose recommendations command objective authority. As one longtime official of the ILO observed, the impartiality of the experts is critical in creating the confidence that international supervision will be effective.<sup>269</sup>

#### *E. Full Disclosure*

All three Committees recommended above, and the Implementation Committee, if it becomes permanent, should adopt full disclosure as the rule rather than the exception. Secrecy in the IAEA regime has made evaluating the effectiveness of its safeguard procedures difficult.<sup>270</sup> In the human rights regime, secrecy has lessened the pressure and therefore the incentives to pursue violations.<sup>271</sup> In the ILO regime, on the other hand, the compliance committees not only work with an ethic of full disclosure, they also actively use disclosure, or what they term publicity, as a tool to encourage parties to comply.

Access to data is essential if nongovernmental representatives are to evaluate meaningfully the compliance of parties. NGOs are decentralized, which means they can monitor state programs on a daily basis more effectively

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266. Some might argue that imposing this sort of compliance procedure would deter states from participation within the regime. In the studies done of the ILO, the data showed that states "convicted" of human rights abuses did not become more uncooperative within the regime. W. GALENSON, *supra* note 212, at 233.

267. For a discussion of the independence of experts on the various human rights and ILO compliance committees, see *supra* note 161 and accompanying text (U.N. Human Rights Committee), *supra* note 183 and accompanying text (European Commission on Human Rights), and *supra* note 220 and accompanying text (ILO Committee of Experts). For problems when committees are not composed of independent experts, see *supra* notes 174-75 and accompanying text (U.N. Human Rights Commission).

268. The ILO Conference Committee on the Application of Conventions and Recommendations and its Committee on Freedom of Association have a tripartite membership. However, both these committees work closely with the Committee of Experts. See *supra* text accompanying note 262.

269. G. JOHNSTON, *supra* note 205, at 102.

270. See *supra* note 249 and accompanying text.

271. See *supra* note 177 and accompanying text.

than UNEP or the Implementation Committee. They would also play an important publication role by alerting the public, other parties, and the media to developments under the Montreal Protocol. Through the media, NGOs also can keep the latest scientific findings in the news, which creates another incentive for states to act and to improve compliance with the agreement.

One of the key elements in any policy of open disclosure is dissemination of the regular reports of the parties. The 1990 London Amendments require reports from the Implementation Committee and the Multilateral Fund's Executive Committee, but are not very specific about the scope and content of these reports.<sup>272</sup> Requiring an annual report from all committees set up under the Montreal Protocol might elevate the importance of such reports as sources of information for monitoring and compliance purposes. Annual reports should include discussions of the activities of the committees and of member and nonmember states, and should recommend necessary actions. All reports should be made available to the public.

## VI. CONCLUSION

An effective international regime will create the opportunity and incentives for states to act together. Creating a strong connection between domestic practices and international obligations is central to making the Montreal Protocol regime work. As another official of the ILO observed, the proper criterion for assessing the value of particular international organizations or regimes is how successfully they involve the domestic decision-making processes of states rather than how independent of states they have become.<sup>273</sup> After all, as the debate surrounding the adoption of the Protocol illustrates, national commitment is the source of the political will underlying most strong regimes. For this reason, an international supervisory mechanism that integrates nongovernmental actors can create an essential system of accountability between international regimes and state practice.

The regime should encourage states to work together. There are many positive benefits of the Montreal Protocol regime. For example, states can share technology and financing to put less harmful substitutes in place, they can create trade benefits to reward those states that are complying, and they can move quickly to respond to changes in the scientific assessment of the causes and rate of ozone depletion. However, the regime must not become a hiding place for states that would like to appear environmentally-minded, but have no intention of living up to their obligations. The human rights, ILO, and

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272. London Amendments, *supra* note 4, annex III, at 1; *id.* at annex IV, at 5.

273. J. MAINWARING, *supra* note 206, at 102.

IAEA regimes provide persuasive examples of ways to ensure that the Protocol accomplishes its goals through state compliance.

International environmental norms must catch up with the realities of the global environment. Ecological disasters and growing economic interdependence -- epitomized by the recent Persian Gulf war -- reminds us how small this earth really is. Yet the Montreal Protocol, held out as the greatest accomplishment of the international environmental regime, is light years behind the human rights, labor, and nuclear nonproliferation regimes in its structural capacity to implement its obligations. Unless nations work together, by opening up international institutions to the public and putting in place mechanisms to create the necessary dynamic between international obligation and state practice, we risk losing nothing less than the chance to save life as we know it on this planet.